



# Smart Computing<sup>®</sup>

In Plain English

June 2006 Vol. 17 Iss. 6 \$5.99 U.S. \$7.99 Canada

**YOUR SYSTEM HAS CRASHED. NOW WHAT?**

## How To Restore Your PC

**EASY WAYS TO GET  
BACK UP & RUNNING**

Create A Drive Image  
Restore From A Backup  
Create A Backup Safety Net

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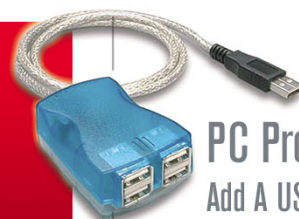


### General Computing

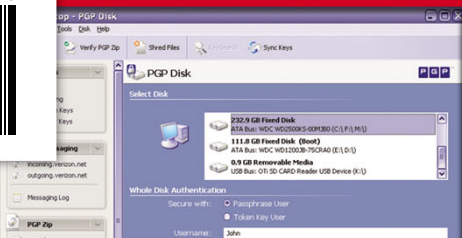
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the country-specific  
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## Editor's Note: Back Up & Restore

Remember those early hard drives? A 5MB drive was huge, or so we figured. "I'll never fill that up," you thought. And next year's 10MB drive was almost incomprehensibly vast: "That should do me for years," you said.

Boy, were you (OK, we) wrong. Programs grew, operating systems grew, media files ballooned. We demand much more from our PCs than we ever thought we would, and they deliver. Best of all, we're able to store all of that data for pennies. (Think of it: If a 100GB drive costs \$200, it means that we're paying two-tenths of a penny per megabyte.)

We store an awful lot of data on today's big hard drives; there are probably files on there that you don't even remember creating, but that you'd dearly hate to lose: financial documents, letters, photos, scrapbooks, collages, emails, contact lists, presentations. . . . The list is almost endless.

What a disaster if you were to lose all of that! Of course, you don't really have to worry because you have all sorts of backups, right? Right? What? You don't make regular backups? You've never practiced restoring from a backup? Why, that means . . . well, actually, it means that you're just like the rest of us.

Let's face it: Not many of us make regular backups. Like going to the dentist, changing the oil in our cars, and cleaning our Venetian blinds, it's one of those things we know we should do, but we tend to put it off. Why? Well, because—not unlike those visits to the dentist—it's time-consuming and a little scary. There's so much to know, so many issues to worry about: What kind of backup should I make? Using which tools? What's the difference between a differential backup and an incremental one? Do I need to worry about drive imaging? Is there some way to automate the whole thing? How do those online backup services work? How will having backups help me if my hard drive dies, anyway? What should I do to rebuild my drive or populate a new one?

Yikes. No wonder we put it off.

You can stop worrying. It's not that complicated, nor need it be terribly time-consuming. We'll tell you everything you need to know about backups and restoration in this issue. After that, it's up to you.

ROD SCHER, PUBLICATION EDITOR

## Now Available On Newsstands ...

### Computer Power User \* Make Your Rig Scream

Microsoft may have postponed Windows Vista until January, but it's never too early to start planning for any upgrades you might need to run it. Find out what to expect this month in *CPU*.

### PC Today \* iPAQ Attack

Most of the smartphone talk these days centers around BlackBerrys and Treos. But there's a world of other devices that are just as smart—and in some ways smarter—than the two more popular lineups. This month we look at HP's iPAQ smartphones.

### First Glimpse \* Stay Organized

The mid-year mark is a good time to evaluate how orderly your home and lifestyle are. If you could use a little help in that arena (and can't we all?), we'll show you how you can keep your life organized and running smoothly with the latest CE products. We also show you how to get the most out of your surround-sound system, and we'll give you a roundup of everything you'll need to make your summer vacation truly memorable.

### Reference Series \* Yahoo!

You can get lost just browsing through the rich content available at Yahoo.com. One of the Web's biggest success stories, Yahoo! has evolved from a hodge-podge listing of destinations into one of the premier sites online. Read this issue to find out about all the useful tools, special communities, and extensive features Yahoo! has available for both consumers and businesses.



## Corrections/Clarifications

In our April issue (pg. 10), we noted that readers could acquire Driver Agent for a one-time fee of \$29.95. That was true at press time, but since then, the company's special promotion has ended. The subscription fee is now \$29.95 per year.



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Smart Computing subscribers may read the following articles at SmartComputing.com.

### Hardware

For all the latest product reviews, visit the Hardware Reviews area at SmartComputing.com (www.smartcomputing.com).

### PC Operating Instructions

**Linux:** Shred It All  
Wipe your hard drive clean with this helpful Linux utility.

### Quick Studies

**Microsoft PowerPoint 2002**  
Solving Object Headaches

**Security**  
How To Respond To An Attack

**Email**  
Chat With Gmail

**Adobe Photoshop CS**  
Automate Image Processes

**Jasc Paint Shop Pro 8**  
Troubleshoot How It Integrates  
With Third-Party Apps

**Browsers**  
Track RSS Feeds In Internet Explorer 7

**Roxio PhotoSuite 7  
Platinum**  
Solve Printing Woes

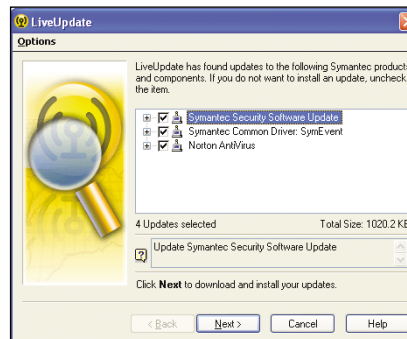
**Adobe InDesign CS2**  
Fine-Tune Character  
Formatting

**Microsoft Money**  
Data File Management

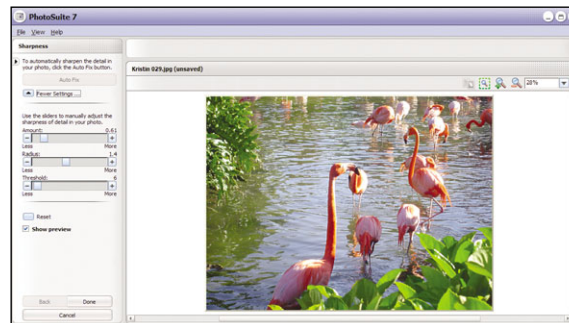
**Microsoft Access 2002**  
A Workaround  
For Lookup Fields In Queries

**HTML**  
Regain Control When Code Goes Bad

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Import Photos From Removable Media



Security



Roxio PhotoSuite 7 Platinum



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## Meet our expert Julie

Home A/V Editor, Crutchfield

*"Just about every day, I come across a cool product which strikes me as perfect for someone I know. These are some of my current favorites."*

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## Expert picks

### THE RIGHT FLAT-PANEL FOR YOU?

Sony Bravia™ XBR® TVs

– 26", 32" and 40" screen sizes

"Sony's XBR LCD TVs may be the most gorgeous High-Definition flat-panels I've ever seen. Unlike early LCD TVs, their color is natural and the response time is great. But you don't lose the accuracy and sharpness that LCD is known for. Best of all, they all have a PC input as well as the usual video inputs. Plug in your laptop, and you have an impressive display for work or gaming."

Sony Bravia XBR LCD TVs #158KD26XBR, 158KD32XBR, 158KD40XBR



### iPOD'S PERFECT PAL

Bose® SoundDock™

"These days, I find I don't have to spend much time telling people about the Apple iPod – most of them already know. But I've noticed more and more iPod fans who are looking for ways to listen to their iPod without headphones. One of the solutions I've been suggesting is the attractive-yet-understated Bose SoundDock. It's essentially a dock with built-in powered speakers. All you do is slide your iPod into place and let the music play."

Bose SoundDock #018SNDDOCK



### POCKET-SIZE, YET POWERFUL

Canon PowerShot SD450

"Canon's Digital ELPH line of cameras has always been sleek, but in the last year they've started packing an amazing amount of technology into each tiny camera body. For example, the best-selling SD450 is a 5-megapixel camera with a 2½" viewscreen, but it weighs just 5 ounces and is under an inch deep."

Canon PowerShot SD450 #280PSSD450

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## DESKTOPS &amp; LAPTOPS

# Intel's UMPC Platform Seeks Mobile Niche

As details continue to pour in about Intel's new UMPC (Ultra Mobile PC) platform, skepticism shadows anticipation as experts question whether the new device can survive in a world already filled with effective mobile platforms.

From a feature standpoint, UMPCs are certainly unique in the handheld market. The subnotebook-sized devices include 7-inch touchscreens, run WinXPT (Windows XP Tablet) PC Edition 2005, use Intel processors (the Pentium M appears in early models), and contain built-in Wi-Fi and Bluetooth. On some of the devices, Microsoft's Touch Pack software—formerly known as Origami—controls the touch-oriented interfaces with an on-screen keyboard and other tools. However, this software won't necessarily appear on all UMPCs because third-party software, such as StreetDeck, also can provide touch-driven controls.

UMPCs with Touch Pack use DialKeys technology for typing data into the devices. And instead of a physical keyboard, users hold the rectangle-shaped UMPCs in their palms and type with their thumbs on the DialKeys interface,

which is split between either sides of the touchscreen.

As for power, the UMPC delivers only three hours of battery time, which is a big disappointment to those expecting the devices to serve as the ultimate away-from-home machines, especially because we're already seeing notebooks that boast five-plus

help the devices tap into the power-saving features of their processors.

The short battery life, along with prices expected to fall between \$700 and \$1,000, are some of the reasons why research firm Gartner claims the concept has promise but not much more. "Today, we believe it isn't possible to produce compelling UMPC products—just 'proofs of concept.' The low battery life, high price, and non-Vista OS (operating system) will likely hurt the UMPC's market acceptance in this first go-round, and the negative backlash could damage its future chances," Gartner notes in a report.

Gartner predicts that the current UMPC concept will fail to achieve mainstream success (that is, its unit sales won't be in the millions) by 2009. Doubt also echoed across the Web among consumers, who questioned the need for a device that Gartner dubs a "tweener," or something that's larger than a handheld and smaller than a standard notebook. Still, others appear intrigued by the notion of running a full-fledged Windows OS and accessing full PC capabilities on a device that's just larger than a typical handheld. ■



hours of battery time. With that said, future iterations will use lower-power processors that can extend the battery life, but those models aren't likely to appear until late next year—at the earliest. Later models also will use Windows Vista, which should



## STORAGE

## LightScribe: Burn A Disc, Flip, Burn A Label

If you're tired of using a Sharpie marker to label your CDs and DVDs, perhaps it's time to check into drives that use LightScribe technology, such as Samsung's new SH-W162L LightScribe DVD burner, to burn labels directly onto your discs.

The technology is relatively easy to use, but the labeling process differs from what you'd usually do to create standard paper labels. First, you will need to install the LightScribe system software, which manufacturers include with their LightScribe-enabled drives. (You also can find universal software on the LightScribe Web site at [www.lightscribe.com](http://www.lightscribe.com).) When the software is ready to go, you can use your usual labeling software to create a label design for your CD or DVD.

Programs such as Nero Cover Designer, Roxio Easy Media Creator, Sonic Express Labeler, and SureThing CD

Labeler require specific steps to properly print a LightScribe label. For example, certain versions of Nero's software include LightScribe options that help you create a compatible label, but other developers (such as Roxio) don't include

LightScribe-specific instructions, so you'll need to follow the steps detailed on the LightScribe Web site to create labels. After your design is set, you can simply insert the disc face-down in your burner and print.

The company's site also includes free label designs you can use to fill the entire face of your discs or make them simply appear as a thick or thin ring on the disc surface. ■



**With this new technology, you can burn labels directly onto your LightScribe-compatible discs using any LightScribe-enabled CD or DVD burner.**

## DISPLAYS

## HDCP: Not-So-Secure Security?

Last month, we examined ATI's claim that some of its graphics cards supported HDCP (High-bandwidth Digital Content Protection), when reportedly they don't. Interestingly, this encryption scheme may not be very secure after all, despite being designed by Intel to control digital audio and video content well into the future.

In 2001, Dutch cryptographer Niels Ferguson announced that he had cracked the encryption system used in HDCP, explaining that "an experienced IT person could recover the master key in two weeks given four standard PCs and 50 HDCP displays." Of course, that's using 2001-era PC technology, so that time would presumably be far less today.

Ferguson never published his research, claiming that such an act would be a crime under 1998's

Digital Millennium Copyright Act, but it's important to note that Ferguson isn't an anonymous Web cracker; in fact, he helped design the respected Twofish encryption algorithm and now works for Microsoft. But Keith Irwin, another cryptography expert, did publish methods for attacking HDCP (also in 2001).

Despite these reports, there appears to be no working, distributed method for cracking HDCP, but some observers predict that as HDCP grows more widespread, crackers will eventually find a way to break its encryption, too. ■



**Products such as this LG 50-inch plasma television include HDCP, the next-generation encryption scheme designed to thwart piracy.**

## PRINTERS &amp; PERIPHERALS

## OLED Edges Ever Closer

As cool as OLED (organic light-emitting diode) technology sounds, it tends to evoke far-fetched fantasies that might be better suited for a science fiction movie than any real-world scenario. After all, the prospect of printing OLEDs on a screen to create a display doesn't seem like anything we'll see happening in our home offices soon.

But apparently, Epson begs to differ. The company recently created what it claims is the world's first OLED-based print head, which is a huge advance in an area that could eventually produce portable, flexible, and even roll-up displays. OLED printing technology is similar in performance to laser printing, and Epson says the technology could

eventually merge with the company's low-temperature polysilicon TFT (thin film transistor) technology to boost resolution and lower costs.

For consumers, OLED technology could spell the end of high-cost color printing because it would presumably rival the cost of black-and-white laser printing. OLED also should beat the resolution of color laser printers, though affordable color lasers are slowly improving in the areas of text and graphics quality. For example, Dell's \$399 3000cn model offers decent color laser printing with 2,000-page color cartridges that run only about \$65.

We have yet to see OLED printers, but the technology is already appearing in other sectors. BenQ-Siemens recently revealed its S88 mobile phone, complete with a bright, 2-inch OLED display. ■



## CPUs, CHIPS &amp; CARDS

## Intel Readies Conroe Processors

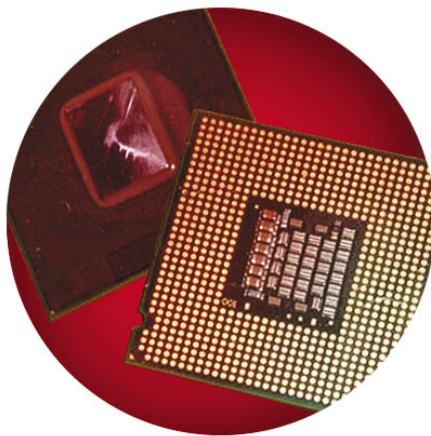
The processor wars rumble on with Intel's recent unveiling of its Conroe desktop CPU technology, which appears poised to give AMD a serious run for its money when it comes to performance.

Although the last couple of years have seen AMD produce the fastest, most efficient desktop chips, early benchmarks show Conroe easily beating top-of-the-line Athlon chips. Hexus.net benchmarked a Conroe running at 2.67GHz and over-clocked an Athlon FX 60 to 2.8GHz, using tests that utilized audio and video encoding, gaming, as well as memory tests, and other CPU tests. The Conroe outpaced the Athlon in all tests, and considering this was a midrange

Conroe battling a high-range Athlon, these results are intriguing.

In recent years, Intel's processors suffered not only from lackluster performance but also from heat issues; however, the company says the Conroe will provide a 40% boost in performance with a 40% decrease in power compared to the current high-end Pentium D 950 processor.

Intel's new microarchitecture features several new elements, including Wide Dynamic Execution, which improves the instruction-per-clock-cycle rate along with execution and energy efficiency, as well as Intelligent Power Capability, which saves power by turning on the individual logic system only when necessary. ■





## Researchers Infect RFID Technology

**A**t this rate, our microwave ovens could soon be susceptible to virus attacks. Researchers at Amsterdam's Free University created a virus-infected RFID (radio frequency identification) chip to show the vulnerability of RFID systems, which experts previously considered safe from attack due to the limited memory capacity of the chips.

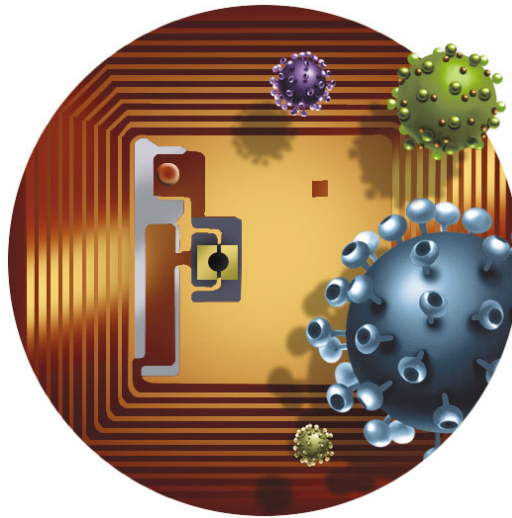
"Everyone working on RFID technology has tacitly assumed that the mere act of scanning an RFID tag cannot modify back-end software and not in a malicious way," the scientists wrote in a paper. "Unfortunately, they are wrong."

According to the scientists, viruses existing on RFID tags can infect the back-end databases used by the RFID software. After infecting the databases, the viruses can then propagate to other RFID tags, an event that could

enable militants or criminals to alter airline baggage systems or supermarket databases.

But AIM Global, the trade association for automatic identification and mobility, issued a statement soon after the scientists revealed their RFID research that disputed the virus claims.

"Many of the basic assumptions in the paper overlook a number of fundamental design features necessary in automatic data collection systems and good database design," said Dan Mullen, AIM Global president. "In other words, the researchers built a system with a weakness and then proceeded to show how the weakness could be exploited. Not surprisingly, poor system design, whether capturing RFID tag information, bar code information, or keyboard-entered data, will create vulnerabilities." ■



### PROBLEM-SOLVER: TROUBLESHOOTING THE NEWS

#### Why is my printer feeding multiple pages at once?

Oh, you didn't want one printed page and five blank pages? Check that the paper currently in the paper tray isn't curled at the edges or corners, as this can cause the feeder to grab more than one page. If you see curls pointing in one direction, grab the stack of pages and curl them in the other direction to make the pages straight.

#### Why does my new hard drive have less storage than advertised?

If the total capacity of your hard drive appears lower than what appears on the box, don't fret. Manufacturers measure the storage using the decimal format, whereas Windows uses a binary format, and this difference causes a slight discrepancy when viewing the size of your drive via Windows.

#### Why is my monitor screen fluttering?

A fluttering screen is usually no reason to panic because the source is usually nothing more than a flaky monitor cable. Check that the monitor cable is firmly inserted on both ends;

if it is, but you're still having problems, try replacing the cable.

#### Why does my Windows Task Manager always report 100% CPU usage?

If you reviewed the processes in Windows Task Manager but you're still having trouble identifying the source of a program that's using all of your CPU's resources, check the list of startup programs in the System Configuration Utility. (From the Start menu, click Run, type **msconfig** in the field, and click OK.) If you see something that doesn't belong there, disable the program. ■

## CONVERGENT TECH: PDAs &amp; SMARTPHONES

## Crossover Virus Breaks PC-Handheld Barrier

**A**re you sure you want to sync your handheld today? MARA (Mobile Antivirus Researchers Association) announced it discovered the first virus that can propagate from PCs to mobile devices using Windows Mobile. Called Crossover, the virus works by infecting a host PC and then infects any Windows Mobile device connected to that PC via ActiveSync.

Although the virus is apparently easy to remove, it can create some turmoil before someone discovers it, including deleting the My Documents directory and overwhelming system resources. Viruses limited to PCs can cause far more damage and spread through many other means, but Crossover is interesting because it's the first virus that works on both PCs and Pocket PCs.

According to MARA, an anonymous source sent the virus to the association, which then disassembled it to determine how it works. When executed, the virus checks the host machine to see if it's running Windows CE or Windows Mobile, and if the host PC isn't running either of those, Crossover assumes it's running a desktop version of Windows. If the virus assumes the latter, it installs a copy of itself in the Windows folder and adds a Windows Registry file that forces Windows to execute the virus each time the user reboots the PC.

MARA notes that each time the virus runs, it begins this process again,

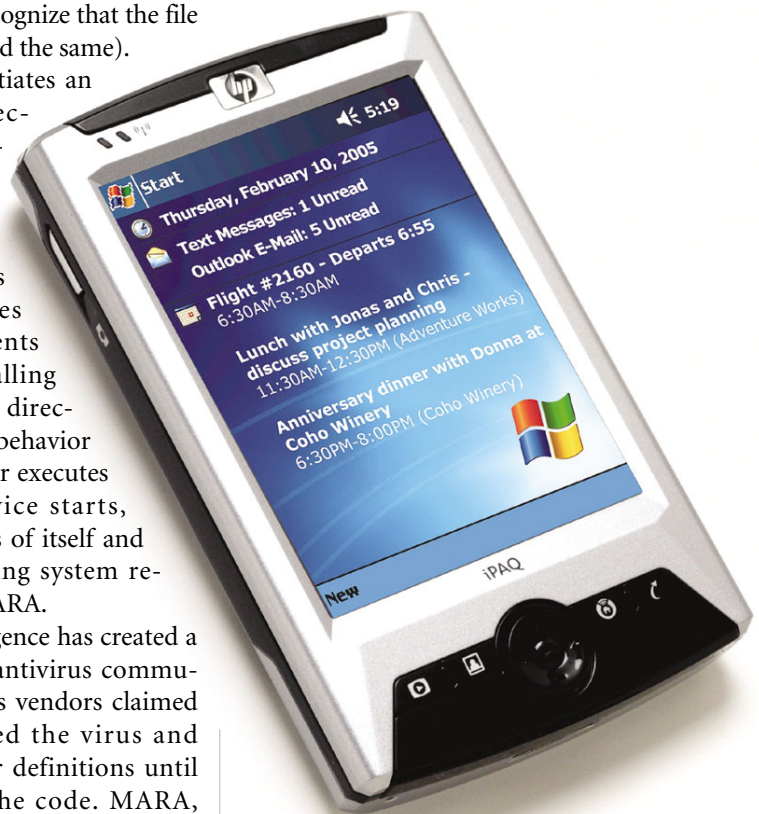
creating new files in the Windows folder and Registry, eventually creating enough data to hamper system performance (because Crossover uses unique names each time it creates the files, Windows doesn't recognize that the file data is indeed one and the same).

When the PC initiates an ActiveSync connection, the virus detects the connection and copies itself to the mobile device and executes there, deleting files in the My Documents directory and installing itself in the startup directory. Mimicking its behavior on the PC, Crossover executes each time the device starts, making more copies of itself and eventually exhausting system resources, explains MARA.

Crossover's emergence has created a disturbance in the antivirus community, where antivirus vendors claimed they never received the virus and cannot update their definitions until they can analyze the code. MARA, which has professors and security professionals among its ranks, reportedly required vendors to join its membership in order to gain access to the code.

At press time, the virus was considered proof of concept and was not known to exist in the wild. However, Crossover could very well signal the

beginning of mobile malware variants that can easily travel among devices—large and small—regardless of the OS (operating system) in use. **I**



Devices using Windows Mobile could be susceptible to the new Crossover virus, which can infect and spread among PCs and mobile devices.

## DULY QUOTED

“... geez, get a decent computer where you can actually read the text and you're not sitting there cranking the thing while you're trying to type.”

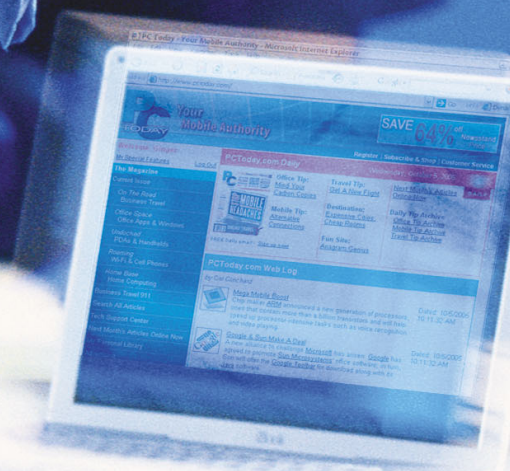
—Microsoft chairman Bill Gates mocks the \$100 laptop currently in development by MIT's One Laptop per Child association. (Source: Reuters)



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# News From The Help Desk

## Most Popular & Timely Tech Calls

COMPILED BY KYLEE DICKEY

*Each month, we receive numerous technical support calls and email messages. Some computer problems are fairly common, and we find that many callers struggle to resolve the same issues. In this article, we cover five of the most common or timely tech support questions and provide our solution for each of them.*

**Q I've visited a Web page that is supposed to have pictures, but I can't see the pictures. Instead, I just see a red "X." What does this mean, and why don't I see the pictures?**

**A** There are three main reasons you may see a red X. First, the Web site's administrator may have moved the image file to a different directory without also updating the Web page's HTML (Hypertext Markup Language) code to accommodate the change. Second, perhaps the page's HTML code doesn't include a link to the image. Third, your browser may not be able to display the image.

If the problem is that the Web site's administrator moved the image file to a different directory or forgot to code the link to the image file, there isn't anything you can do to fix this. The problem is on the Web site's end rather than your end. You can email the site's administrator (if an email address is available) to notify her of the problem, but there's no guarantee that you'll get any results.

On the other hand, if the red X appeared because your Web browser cannot display the image, the problem is either that your particular browser does not support the image file type the site uses or that your browser's settings prohibit automatically loading image files.

To check your settings in Internet Explorer, open the Tools menu and click Internet Options. Click the Advanced tab and scroll through the Settings list until you find the Multimedia category. Make sure there is a check mark in the Show Pictures checkbox and click OK. If you use Mozilla's Firefox, open the Tools menu, click Options, select Web Features, select the Load Images checkbox, and click OK. (Other browsers have similar settings.)

If you prefer not to automatically view images so that Web sites load faster, you can leave the Show Pictures checkbox unchecked and try another option: Whenever you see a red X, simply right-click the red X and click Show Picture to load that individual image.

**Q My computer won't boot, and now I see an error message on-screen: "NTLDR is missing. Press Ctrl+Alt+Del to restart" or "NTLDR is missing. Press any key to restart."**

**A** Although there are a few things that can cause this, we're going to cover the most common cause here. When we receive calls about this problem, there is usually a very simple fix: Check your floppy diskette drive. In many cases, a diskette was left in the drive, and the computer is merely trying to boot from the diskette instead of booting from the hard drive. Eject the diskette and try to restart your system again.

If this suggestion doesn't fix the problem, you may need to use the Recovery Console to repair your Windows installation. You can read more about this procedure by accessing one of the articles in our Tech Support Center. Go to [www.smartcomputing.com](http://www.smartcomputing.com), click the Tech Support Center link, click Browse Error Messages Alphabetically, press CTRL-END to skip to the bottom of the Web page, click the No-OL link, and locate the corresponding link: "NTLDR is missing. Press any key to restart." This link leads to an article that has detailed instructions about restoring corrupted or missing files using the Recovery Console.

**Q I'm having problems with my computer, which was working fine two days ago. A friend suggested that I try System Restore. How do I do this?**

**A** To use System Restore, you must have Windows XP or Windows Me. System Restore creates a series of restore points, to which you can reset your PC. When it creates a restore point, it monitors changes to applications, drivers, DLL (dynamic-link library) files, and Registry files. System Restore does not, however, monitor changes to data files; therefore, if you revert to an earlier restore point, you won't lose documents you created or edited since that time. However, this emphasizes the importance of backing up important files. If you rely only on System Restore, you won't have a way to save corrupted or accidentally deleted documents.

By default, System Restore will make a couple of restore points automatically each day if your computer is turned on but idle. It also will automatically create a restore point before installing new software. Plus, you can manually create restore points whenever you want (as long as you have enough hard drive space).

To access System Restore in WinMe/XP, open the Start menu and click All Programs (or Programs), Accessories, System Tools, and System Restore. To create a restore point, select Create A Restore Point, click Next, type a name for your restore point in the Restore Point Description field, and click Create. When choosing a name for your restore point,

consider using the date or describing any relevant changes you plan to make to your system.

When you run into trouble, you can restore your system to a previous state by opening System Restore and selecting Restore My Computer To An Earlier Time. In the following dialog box, you'll see a calendar on the left side; dates for which Windows created a restore point appear in bold. Click the date to which you wish to restore your computer. If there are multiple restore points for that date, select the restore point you want to use from the area on the right side of the calendar and then click Next. Windows will need to restart your computer before the restoration is complete.

If you find that reverting your system according to the restore point creates additional problems, you can undo this action. Just start System Restore again and choose Undo My Last Restoration. Follow the on-screen instructions, and Windows will restart your system automatically.

## Q How do I format my hard drive and reinstall Windows?

**A** Keep in mind that you should only format your drive and reinstall Windows as a last resort. After all, you'll lose all the data on your hard drive when you format it. This is yet another reason why it's important to make periodic backups of your files. If you haven't already done so (and if you can still access the files on your system), you should back up any important files now. You also may want to jot down your network settings, so you can easily get your computer online again after you reinstall Windows.

Insert the Windows installation disc and restart your PC. If you see a message to press a key to boot from the CD, press the indicated key. If your system doesn't give you the option to boot from the CD, you may need to change the BIOS' (Basic Input/Output System's) settings so it checks the optical drive first. (NOTE: The instructions for entering the BIOS vary; check your PC's or motherboard's documentation for specific details. Usually, you'll press and hold down the F2 key [or DELETE, ESC, F1, etc.] as you restart your PC.)

After you boot from the CD, the Windows installation disc will check your configurations and prompt you to either install or repair Windows. Choose to install Windows. When you see the EULA (end-user license agreement), read it and press F8 to accept the agreement.

On the next screen, use your arrow keys to select the drive or partition on which Windows is currently installed. Press the D key to delete contents of the partition. Windows Setup will prompt you twice more to ensure that you really want to delete the data on the drive. Press ENTER when prompted to confirm the procedure. Finally, press the L key to finish the confirmation. Choose either the NTFS (NT file system) or FAT32 (32-bit file allocation table) installation. (We recommend the NTFS installation.) You also may choose either the Quick or Advanced installation option.

Windows Setup will load all of the files it needs onto your hard drive, and then you'll see a prompt to press any key to reboot from your CD. Press any key to continue. After your computer reboots, you should see the familiar Windows environment. The rest of the setup process is fairly straightforward; follow the on-screen instructions to complete the Windows installation. Remember to run Windows Update when you finish to ensure that you have all of the latest service packs and security updates.

## Q I've been reading an article in *Smart Computing* that says I need to boot in Safe Mode. How do I do this?

**A** To enter Safe Mode, restart your computer. As soon as the computer starts to power up, press and hold down the F5 key until you hear a beep and see a message stating that Windows is running in Safe Mode. Click OK to continue.

You also can access Safe Mode through the Startup Menu. To do this, restart your computer, press and hold down the F8 key in WinMe/2000/XP (or press and hold down the CTRL key in Windows 98) until you hear a beep and the Startup Menu appears. Then select Safe Mode and press ENTER.

If you have more than one version of Windows installed on your system, the Startup Menu will include a list of Windows versions; select the one you want to boot into and press ENTER. Then press and hold the F5 key until your computer displays the message stating that Windows is running in Safe Mode. ■

## Feature Package Topics

Each *Smart Computing* issue includes tips, reviews, and information about a variety of topics. However, each issue also has a featured group of articles about a selected topic. Below is a list of the Feature Packages from the previous year. As a *Smart Computing* subscriber, you have access to all of our archived articles at [www.smartcomputing.com](http://www.smartcomputing.com).

June 2005	Fast Trouble-Free Internet Access
July 2005	Digital Photography— 50 Great Tips From The Pros
August 2005	Our Favorite Windows Tips & Tricks
September 2005	Fix The 50 Most Annoying PC Problems
October 2005	Get The Most From Your CDs & DVDs
November 2005	Solve The Wireless Puzzle
December 2005	Our Annual Holiday Buyer's Guide
January 2006	Troubleshoot! Solve Software Problems
February 2006	What's Slowing Down Your PC?
March 2006	Reinstall Your Operating System
April 2006	Protect Yourself Against Viruses & Spyware
May 2006	Vista vs. XP



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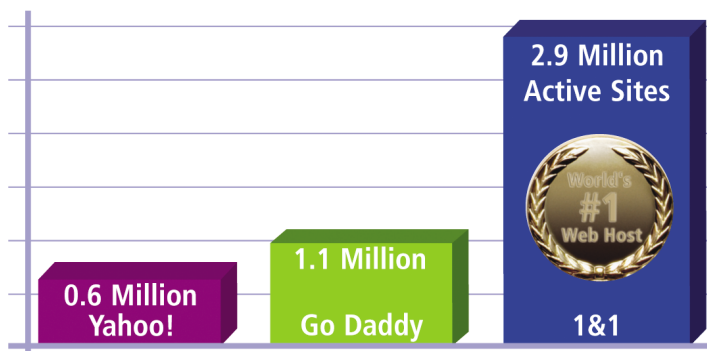
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# iPod On The Road

## Share The Love

**Joshua Gulick**

Send your comments to  
joshua@smartcomputing.com

Apple's iPod entered the gadget scene as a personal music player that channeled sound to its owner via earbuds. These days, you're just as likely to see it on the lone iPodder, thanks to some clever accessory manufacturers.

Large and small, portable and stationary, iPod speakers abound.

And those who want to listen to their tunes on a home stereo or television can easily find devices that can make the appropriate connection.

But these cables, docks, and speakers generally require a physical connection—something that won't fly in many of today's automobiles. If your car has a cassette player, you can use a device that plugs into both your iPod and the car's tape deck. If your car has a CD/radio combo or simply a radio, you need to go wireless. Enter the FM transmitter.

### Road Tunes

The FM transmitter broadcasts your tunes, so your car stereo can receive the music and channel it to the car's speakers. A commercial-free radio station that plays only the songs of my choice (limited to my iPod's music collection, of course)? I had to check it out.

I took three transmitters for a spin: Belkin's TuneCast II, DLO's TransPod, and Sonnet's PodFreq.

### Plug...

The TuneCast II supports any MP3 player (iPod or otherwise) because it plugs into the device's headphone jack. It doesn't have a car charger or a dock that will hold it in place while you drive (Belkin offers a \$29.99 TuneDock Car Holder separately), but it's

ultra-portable, thanks to two AAA batteries. Thus, you can use it in your car and then use it again with your home stereo. (After all, FM transmitters support any FM radio.)

Sonnet offers separate PodFreqs for the iPod (third generation and newer) and iPod mini. The transmitter is portable (although it drains your iPod's battery slightly instead of using its own). But it includes a car charger to counteract that and has a great protective case that covers all but the face of the iPod. The extendable antenna is another plus. Unfortunately, the car mount is a separate accessory.

On the other hand, the TransPod's car charger doubles as the car mount. The adjustable mount is very sturdy and includes an extension arm. I found that I could easily reach the iPod in this mount with one hand while driving. It supports standard iPods (third generation and newer) and also handles iPod minis and nanos. As with the other transmitters, the TransPod has a small display that provides the current channel. A button at the side of the device activates the display's light.

### ... & Play

Setup for any of these devices is a snap: Once you attach the iPod and start a song, tune your car stereo to an unused channel and then tune the FM transmitter to the same channel; you'll hear the music right away.

I expected to find a sound quality difference from device to device, but all three devices provided clear audio on empty (static only) or nearly empty (weak signal) channels. You'll need to fiddle a little with the stereo to find a clear connection to any of these devices, but the minimal hassle pays off. Of course, you could just throw on the earbuds to drown out the fighting kids in the back seat or those pesky sirens.

I like all three transmitters. I'd buy the PodFreq for someone who really appreciates the iPod's style, as it really complements the sleek iPod. I'd recommend the TuneCast II to families who have both iPods and non-Apple MP3 players. And I'd buy the TransPod for any non-geeky iPod lover, as it has a great car mount included as part of the package. ■

#### PodFreq

\$99.95

Sonnet Technologies

(949) 472-2772

www.podfreq.com



#### TransPod

\$99.99

DLO

(866) 800-4763

www.dlo.com



#### TuneCast II

\$39.99

Belkin

(800) 223-5546

(310) 898-1100

www.belkin.com



# Too Big To Love?

## Microsoft's UMPC

**Chad Denton**

*Send Chad your opinions at  
chad@smartcomputing.com*



**A**ccording to the Compact Oxford English Dictionary, the word “mobile” means “able to move or be moved freely or easily.” With that definition in mind, Microsoft’s Ultra-Mobile PC, or UMPC, sounds like a gadget lover’s dream. Unfortunately, the UMPC is far from what I’d call ultra-mobile.

In case you missed Microsoft’s CeBIT announcement, the UMPC is a touchscreen device with a 7-inch display, hard drive, and wireless connectivity. Instead of Windows Mobile, it runs Windows XP Tablet PC Edition and sports a special user interface known as Microsoft Touch Pack (previously known as Origami). The UMPC concept is not new or novel, and its predecessors have fared poorly in the past.

Obviously, the UMPC’s most direct ancestor is the Tablet PC, which is just a larger version of the UMPC. Although the Tablet PC has been around for several years, it hasn’t really caught on, outside from a few niche markets. In part, this is due to the Tablet PC’s price, which doesn’t compare favorably to similar notebooks.

A slightly older descendent of the UMPC is Sony’s U50, which appeared on the market in 2004. The U50 ran WinXP Home or Professional and included a hard drive. It was smaller than the UMPC, measuring 4.25 inches high x 6.57 inches wide x 1.03 inches deep. Where a UMPC features a 7-inch display, the U50 only included a 5-inch display. Sony didn’t see fit to release a follow up to the U50, and it essentially disappeared without making much of a splash at all.

Finally, going way back, the UMPC reminds me a bit of old handheld PCs. These devices didn’t include hard drives and ran Windows CE rather than full versions of Windows, but many had the same awkward form factor we’re seeing in the UMPC. While the UMPC obviously has more features and power than the old handheld PCs, I somehow doubt it’ll be enough to overcome the UMPC’s size issues.

TabletKiosk’s eo UMPC ([www.tabletkiosk.com](http://www.tabletkiosk.com)) measures 5.75 inches high x 8.98 inches wide x 0.98 inches deep and weighs less than 2 pounds. Samsung’s Q1 measures 5.47 inches high x 8.93 inches wide x 1 inch deep and weighs more than 1.5 pounds. At these dimensions, the UMPC is too big to fit into a pocket. You could toss it into a notebook case, but at that point, you might as well buy a notebook with a decent keyboard and a larger display.

The UMPC, however, has another problem: battery life. TabletKiosk quotes 2.5 hours for its eo UMPC with a standard battery and four hours with an optional extended battery. We’re hoping other UMPC manufacturers can increase this number to around eight hours. If not, it’s going to be hard for mobile workers to stray too far away from a power outlet.

Then there’s the price. At press time, only TabletKiosk had a price available for its UMPC. The \$899 base price includes 256MB of RAM, a 30GB hard drive, and a 1GHz VIA C7 NaNo processor. For \$50 less, you can buy a Dell E1505 notebook with Windows XP Media Center 2005, 1GB of RAM, a 40GB hard drive, and a 1.66GHz Intel Core Duo processor. I can only hope other manufacturers offer more competitive pricing.

The UMPC appears to have more going against it than for it. For me, the UMPC form-factor is a big problem. The story goes that Jeff Hawkins, the man who created the Palm Pilot, walked around with a balsa wood mockup of his device for several weeks to make sure the size was right. I don’t get the impression that Microsoft and its UMPC partners have given the same kind of attention to the UMPC’s size and weight. Historically, at least, this form factor doesn’t appear to be a winner. Combine a bad form factor with horrible pricing, and the UMPC has lots of problems.

I suspect the UMPC may eventually find a following among a handful of users (primarily people who enter data while on the go), but it may be an even smaller niche than the Tablet PC. The biggest thing the UMPC has going for it is Microsoft. The company has the kind of deep pockets needed to maintain a project even if it isn’t initially successful, and Microsoft has a way of eventually turning losers into winners. ■

# The Right Price

## Canon's PowerShot A620 Is A Great Value

**Kylee Dickey**

*Send your comments to  
kylee@smartcomputing.com*



### PowerShot A620

\$399

Canon

(800) 652-2666

(714) 438-3000

[www.powershot.com](http://www.powershot.com)

**T**he PowerShot A620 isn't one of Canon's newest cameras. However, recently, I've seen this camera available for less than \$300, making it a great value. It isn't often that you find a 7-megapixel camera with a wide range of manual functions, an adjustable LCD (liquid-crystal display), and 4X optical zoom.

### Loaded With Features

The A620 is in many ways a younger sibling to Canon's advanced G Series of digital cameras. The

A620 shares much of the G Series' design, including the swiveling LCD. You can flip the LCD out away from the camera and position it so that you have a clear view of the screen without doing acrobatics to frame your shot. The swiveling LCD also works great for taking group photos and including yourself in the shot. Set the A620 up on a tripod or tabletop, flip the LCD around so it faces forward, and set the self-timer. With the LCD flipped forward, everyone can make sure that they are in the shot (and that the framing won't crop off the top of their heads).

If you turn off the LCD, the A620 can shoot in Continuous mode at 1.9fps (frames per second) until the memory card is full. Also, this camera's auto focus is noticeably faster than that of the G Series cameras that came before the A620.

The A620 can shoot movie clips (with audio) of up to one minute in length or 1GB (gigabyte) in size. Three movie resolutions are available: 640 x 480 pixels, 320 x 240 pixels, or 160 x 120 pixels. Depending on which resolution you choose, the camera has frame rates of 15 to 60fps available.

One of my favorite features of the A620 is Sound Memo, which Canon has included in some of its higher-end PowerShots.

With Sound Memo, you can attach a sound clip of up to 60 seconds to a still photo. I'd especially like to use Sound Memo when vacationing. I always take photos while sightseeing but then can't remember where I took the photo when I return home.

Despite the A620's low price tag, I consider it one of Canon's high-end cameras because of its G Series-like design and full set of features (such as full manual mode, manual focus, and multiple exposure modes). Yet the camera has many things in common with some of Canon's smaller point-and-shoot cameras. For instance, the A620 takes four AA batteries instead of a proprietary Li-Ion battery pack. Also, this camera records images on an SD (Secure Digital) card rather than a CF (CompactFlash) card. While not as small as most SD cameras, the A620 is much smaller and lighter (just 8.3 ounces without batteries) than the G Series PowerShots.

The A620 lacks a few features you'll find in Canon's G Series PowerShots. For instance, I was dismayed to see that Canon omitted both RAW and TIFF (Tagged Image File Format) modes from the A620. You can only shoot images in JPEG (Joint Photographic Experts Group) mode. No lossless format is available. The A620 also lacks a hot shoe for an external flash, but a slave flash is available as a separate accessory.

### Hands On

The A620's Auto White Balance mode was very accurate, resulting in true-to-life colors. I also noticed very few **chromatic aberrations** (purple halos around bright lights). The A620's macro mode let me shoot very sharp close-ups.

The only real drawback I noticed was that the PowerShot A620 seems to demand a steadier hand than many other cameras its size. With the flash on, I got sharp photos, but even in moderate lighting, if I turned the flash off, I had to hold the camera quite steady.

Overall, though, I wouldn't hesitate to recommend this camera to a friend who wants an easy-to-use point-and-shoot camera that has some additional high-end features. If you can find this camera for less than \$300, it's a great bargain. ■

# Photo Overflow

## Powerful & Portable Media Storage

### Nathan Chandler

*Send insights and insults  
to Nathan at  
nathan@smartcomputing.com*

**T**he magic of digital photography lets you take picture after picture, but only as long as you don't run out of flash card capacity. If you're in Montana shooting dramatic images of a charging grizzly and your 1GB card fills up, the entire picture-taking fun—well, perhaps that's not the right phrase for it—comes to a screeching halt. With the P-4000 Multimedia Storage Viewer, however, Epson helps you keep shooting until your shutter finger screams for mercy.

### So, So Pretty

Boiled down to bare bones, the P-4000 is just a portable 80GB hard drive wrapped in a bundle of extra features. Those features include a 3.8-inch LCD (liquid-crystal display), rechargeable lithium-ion battery, support for JPEG (Joint Photographic Experts Group) and RAW file formats, compatibility with MP3 and AAC (Advanced Audio Coding) audio, as well as MPEG-4 and Motion JPEG video clips. There are two flash card slots to accommodate the CompactFlash, MemoryStick, SmartMedia, xD Picture card, and Secure Digital formats.

Those features add heft. The P-4000 is 3.3 inches high, 5.8 inches wide, and 1.2 inches thick. With the battery installed, it weighs around a pound, and once you slide the P-4000 into the included protective case, you'll see that it adds noticeable weight to your array of photographic tools, especially if you try to travel light.

I started my tests by transferring 256MB of images stored on an SD card. The transfer time wasn't blazing fast—it took about two minutes—but the process was easy, and the P-4000 automatically created a folder named by date. This drive uses a basic hierarchal folder system to organize data, so after you move your files, it's generally easy to click through folders until

you find the data you want. Epson also provides a shortcut to the most recent data you transferred.

File browsing was fairly quick and smooth, even when I loaded several gigabytes of RAW and JPEG files. The P-4000 did need a few moments to load thumbnails, but for the most part, image browsing was a painless process. Colors were gorgeous and details were sharp, thanks to the ultra-clear monitor.

To start a slideshow, all I had to do was select a folder of images and then watch as each image appeared in the order they were loaded onto the drive. Multiple transitions seamlessly display shot after shot, with automatic panning and magnification that make this feature a ton of fun to use. I let the slideshow play continuously, and battery power lasted for about three hours.

I also loaded video clips taken with a point-and-shoot camera, and the P-4000 let me immediately play those files, complete with audio. The device took only a few seconds to load each clip, and the video quality was good. MP3 playback was a bit awkward, but this process worked fine, too. These features are nice, but they come with zero frills, and although Epson markets this device as designed for its gamut of multimedia capabilities, it's clearly best for image storage and review purposes.

### Not Quite Perfect

There were some notable restrictions in the P-4000's capabilities. JPEG handling worked just fine, but because of the technology behind RAW files, you can't zoom in on these images to make sure they're sharp. And no matter how fresh your battery's charge might be, you can't connect to a PC's USB port without the AC adapter. The reasoning here is that if the battery suddenly dies while connected, data or the internal memory might be permanently damaged; so forget connecting to a friend's PC if you forget to pack the power cord.

Last but certainly not least, the P-4000 is very pricey. Although it's an excellent product for pros and enthusiasts with deep pockets, more casual users may want to check out the P-2000 (\$500), which is basically the same device with half the capacity. ■



### P-4000 Multimedia Storage Viewer

\$699.99

Epson

(800) 873-7766

(562) 981-3840

www.epson.com



# Movies Made Easy

## Four Video Editors To Consider

**L**ots of recording, lots of cutting. That's all there is to creating great home movies and personal videos.

Well, almost. It also helps to have a video editor. Such a program makes it easy to gather your footage, divide it into clips, identify the best ones, arrange them into an intelligible sequence, add effects, and compile the entire conglomeration into a finished project. Lots of titles claim to support these tasks. We took a look at several of them to find the one that does it best.



### Ulead VideoStudio 9

Video-editing is nothing if not time-consuming. The process of producing a home movie can take hours, if not days, of effort. That's fine when you're creating a presentation for the family reunion or a retirement party, but not so fine when you simply want to combine a series of clips into something a little more pleasant to watch.

That's where VideoStudio proves invaluable. One of the program's three main components is the aptly named DV-to-DVD Wizard, which automatically divides the content into scenes, gives users the chance to select which scenes to include, and wraps it in one of 20 theme templates. The idea is that a user can build a complete video from capture to burn in a matter of minutes. Well, maybe not that fast. But faster than would be expected with other video editors. We really appreciated this option and bet a good number of users will, too.

Of course, that's not all VideoStudio can do. The program also provides a Movie Wizard component, which is something like Windows Movie Maker. It offers core editing functionality in a back-to-the-basics interface for users who are long on video content but short on time or editing skills. Then there's the VideoStudio Editor, which delivers a broad range of advanced editing

options, including overlay, voice, and music tracks; chroma key (aka green-screen) and more than a thousand other video effects; flash animation overlays; adjustable volume control; and 16:9 widescreen support.

We liked the fact that all of the editing features are presented in an intuitive seven-tab interface so that inexperienced users can take advantage of them. We also liked that Ulead provides a 218-page users manual for when questions arise and free phone-based support (to a toll number) when those questions get complicated. On the downside, VideoStudio is short on editing tracks and lacks support for DivX (a popular video CODEC [compressor/decompressor] based on MPEG-4), and users must download a separate plug-in to gain support for MPEG-4 output and high-definition video input. We also noticed preview playback was slow and choppy at times. But many users will gladly suffer those deprivations for a program this easy to use.

### Magix Movie Edit Pro 11

You may not be able to tell a book by its cover, but you certainly can tell a lot about a program by its interface. Indeed, when it comes to consumer-grade software, intuitiveness is at least as important as substance. Unfortunately, someone forgot to tell Magix that. The fact is that Movie Edit Pro 11 offers a great set of features but an awkward user experience.

Take the installation. The process is straightforward but lengthy because we had to switch discs several times and click countless Next icons to keep things moving. Not at all like the effortless installs we enjoyed with Ulead VideoStudio and Adobe Premiere Elements. Then there's the users manual: It's quite thorough, weighing in at 124 pages of tight text, but lacks the numbered bullet points and numerous screenshots that make for easy reading. And the distinctive interface is neatly organized, yes, but laid out in a way that differs just enough from the standard template for Windows-based software that it could prove intimidating and confusing to users who want to stay in their PC comfort zone.

The editor also boasts broad functionality. Among other things, the program





## BUYING TIPS

Before investing in standalone video-editing software, give Windows Movie Maker a try. The free utility, which comes bundled with Windows XP, allows a user to capture footage, compile it on a timeline, insert transitions and basic effects, and add a soundtrack. And it does it all for free.

features Movie Show Maker, a wizard for creating fun movies in four easy steps; Song Maker, a wizard for adding audio tracks to a movie; an 8-track audio mixer; support for Surround Sound and 16:9 widescreen perspective; an array of audio, video, title, and fade effects; and a 16-track timeline for combining multimedia content into a seamless project (only Adobe Premiere Elements has more). As might have been expected, however, we had a little trouble figuring out how to use all these features. The users manual offered very little information about Song Maker and Mixer, for instance, and the built-in Help utility lacked a logical system for finding relevant information. Fortunately, phone and email support is available during limited hours for users who need extra assistance.

In the end, Movie Edit Pro is a competitively priced editor that could hold some appeal for users who have more time than money and are willing to spend a few hours learning how to use the program. All others should consider something else.

### CyberLink PowerDirector 5

Developed by Taiwan-based CyberLink, PowerDirector has yet to become a state-side mainstay. The latest version is unlikely to change the situation.

Installation was a bit rough as the installer stopped three times to warn us that we needed to turn off Windows Messenger. Which we did. Three times. It also prompted us to turn off our antivirus software. Such

advice is generally warranted, as any open application has the potential to interfere with an installation. Nevertheless, today's users have come to expect their software to install without such warnings. Installation was also quite slow and gave little indication of whether it was progressing as it should.

Once the program was up and running, things got better. The interface was less than intuitive with plenty of unlabeled icons and potentially intimidating menus, but the accompanying users manual was an easy read and covered all of the topics we had questions about (and that's good, considering phone-based tech support costs \$29.95 per two-month period). We liked the program's Magical Tools, which automatically undertake various editing functions—some of them quite tedious if executed manually. Magic Clean corrects insufficient lighting and eliminates unwanted background noise such as echoes or wind, for instance, while Magic Fix stabilizes shaky images. Other Magical Tools expedite the editing process by placing selected clips into preformatted templates and adding synchronized background music to a video.

The program's advanced editing functions are quite nice, as well. It boasts six editing tracks, support for Picture-in-Picture, automatic scene detection, the standard wide selection of effects, and native support for DivX. We wish the timeline editing capabilities ran a little more

## Software Information

	Price	Company	Contact Information	URL
<b>VideoStudio 9</b>	\$99.99	Ulead	(510) 979-7118	www.ulead.com
<b>Movie Edit Pro 11</b>	\$59.99	Magix	(888) 326-2449 (305) 642-6300	www.magix.com
<b>PowerDirector 5</b>	\$89.95	CyberLink	(510) 668-0118	www.cyberlink.com
<b>Premiere Elements 2.0</b>	\$99.99	Adobe	(800) 833-6687 (408) 536-6000	www.adobe.com

## Scorecard

	Performance	Features	Ease Of Use	Installation	Support/Documents	Price	Overall Score
<b>VideoStudio 9</b>	4	4	5	5	5	4	<b>4.6/5</b>
<b>Movie Edit Pro 11</b>	4	4	2	3	3	4	3.2/5
<b>PowerDirector 5</b>	4	4	4	3	4	4	3.8/5
<b>Premiere Elements 2.0</b>	4	4	4	5	3	4	4/5

smoothly—it was difficult to resize a clip or effect because the drag-and-drop function seemed to stall and jump—but overall performance was good. Good, but not good enough to gain PowerDirector the positive recognition it needs to overtake its more visible competitors in this country.

### Adobe Premiere Elements 2.0

Developed by the biggest name in desktop media productivity software, the consumer-oriented Adobe Premiere Elements 2.0 stays true to its professional-grade roots by meeting or exceeding nearly all technical expectations. However, many amateur videographers will find the program too advanced for their needs and experience.

The initial Premiere Elements experience is pleasant enough. Installation is a breeze, as is registration. When the program opens, users can click one of three clearly labeled icons to start a new project, open an existing project, or capture new digital video. Easy, right? Then the interface hits.

Obviously designed with the serious video enthusiast in mind, Premiere Elements' self-adjusting multipanel interface is neatly organized and inclusive of all major editing functions. There's a Timeline panel that can accommodate as many as 99 tracks, for instance, and an Effects And Transitions panel that includes a Favorites folder for tracking frequently used effects. It also features a Properties panel that allows users to modify the properties—such as scale, opacity, and audio volume—of a particular clip without affecting the rest of the project; native support for MPEG-4 (though no comparable support for DivX); and other robust components that prove particularly useful for building impressive home movies one clip at a time.

Users who prefer the get-in-and-get-done approach to movie making, however, will likely find Premiere Elements to be overkill, if not completely overwhelming. Rarely does the program automate a task users can do on their own (an impressive exception is the smart capturing feature that automatically splits captured

video into scenes and inserts them directly on the timeline in chronological order). And though the individual functions are actually quite easy to use, it takes time and patience to use them properly. Moreover, the program itself moves quite slowly. We found ourselves waiting while the program loaded and imported video clips, for instance, and project previews tended to stutter a little on playback.

The bottom line with Adobe Premiere Elements—as with most Adobe products—is that it's aimed at users who want a wide array of technical resources at their disposal. And who do not need help. While the 244-page manual is quite good, phone-based tech support for noninstallation issues is available only at a rate of \$159 per year.

### Should You Follow Ulead?

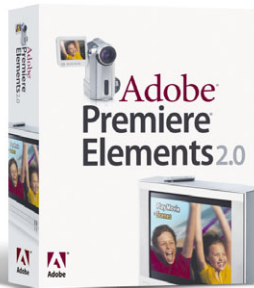
For its ability to meet the needs of everyone from the newest newbie to the most enthusiast hobbyist, we selected Ulead VideoStudio as this month's Smart Choice. Keep in mind, however, that video-editing software is not a one-size-fits-all commodity. Rather, it must be capable of producing movies that live up to a user's expectations while respecting that particular user's time and talents.

The only way to know whether a particular product meets that exacting standard is by trying it out. All of the aforementioned programs (except Magix Movie Edit Pro 11) are available on a free trial basis. We recommend taking advantage of these trials before making a decision. ■

BY JEFF DODD

## BUYING TIPS

Users should make sure their PCs have the necessary equipment to accommodate all of the footage in their video libraries. That means a USB or FireWire port for capturing digital video footage, a video input card for capturing analog or TV footage, and maybe an extra hard drive to store all the content.



**June 2006  
Smart Choice**

*Ulead VideoStudio 9*



# Business at home never sounded so good.

The new iHome iH5™ makes your iPod® earbud free. So you can talk on the phone. Tackle paperwork. And hold meetings in your home office against a backdrop of incredibly rich, natural stereo sound from our iH5 Reson8™ speakers.

The iH5 has a digital AM/FM clock radio that will, should you snooze at work, wake you to the sounds of your iPod! And it does all this while charging your iPod, so it's ready to go when you are.

## iHome is home base.



**winner**  
macworld  
eddys



### iHome iH5

To order, visit  
**[www.ihomedirect.com](http://www.ihomedirect.com)**

Or call toll free  
**1.800.925.6224**

30 day risk-free trial!



For all docking iPods®  
including nano!



# iHome™

[www.ihomedirect.com](http://www.ihomedirect.com)

iHome is a trademark of SDI Technologies Inc.

iPod is a registered trademark owned by Apple Computer Inc. in the U.S. and in other countries.

\*except iPod® shuffle. iPod not included.



# Take Control Of Your PC

## Registry Mechanic 5.1

\$29.95  
PC Tools  
(800) 406-4966  
www.pctools.com

Few aspects of Windows inspire more trepidation than the Registry. This file, which maintains information about system and user preferences, is critical to your PC's operation. However, changes made over time by programs, devices, and other components can leave the Registry bloated and corrupt, causing system slowdowns, crashes, and system failure.

Coming to the rescue is Registry Mechanic. Even if you haven't noticed any system performance issues, there are real benefits in purchasing a Registry cleaner and running it on a regular basis. These programs help optimize system speed and performance. Additionally, a Registry cleaner can catch problems before they become so ugly that even a powerhouse like Registry Mechanic can't eradicate them.

Registry Mechanic is built with novice and intermediate users in mind. It has a simple, straightforward interface offering three main operations: Scan Your Registry, Optimize Your System, and Compact Registry.

### The Big Gun

The heavy hitter of Registry Mechanic is Scan Your Registry. This function reads the listings in your registry and compares them against your current system configuration, identifying obsolete, duplicate, and other problematic entries. It then presents its findings, categorizing problems by type and location and then ranking each problem by the likelihood it will cause trouble.

You can decide whether to clean certain problems or have Registry Mechanic scrub them all away. Before it proceeds, Registry Mechanic makes a backup of the original Registry in case you subsequently discover Registry Mechanic has made unwelcome changes.

### Subtle Touches

Registry Mechanic's second and third options work less obviously to improve system performance. Optimize Your System applies

a series of tweaks and patches to the Registry, each of which has the potential to improve system performance. These improvements affect a wide range of invisible operations.

The option reduces the delay before Windows opens menus, defragments the boot file, and optimizes the Prefetcher Service. Optimize Your System option also instructs Windows to terminate stalled applications automatically at shutdown. This setting can improve the speed with which Windows shuts down but can cause data loss. If you have programs that are hanging during shutdown, resolve these problems before you use the Optimize Your System option. Compact Registry removes empty space in the Registry, which can improve performance. However, the value you'll gain from it will be highly system dependent.

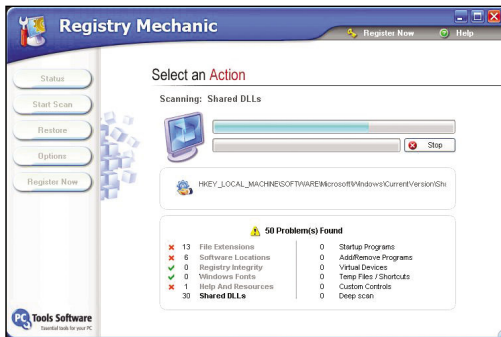
### Expand Your Protection

Registry Mechanic offers the Options button, which affords access to a variety of settings and options. One of these, Create A System Restore Point Before Repair (XP), is NOT enabled by default. We recommend all Windows XP users select this checkbox. If Registry Mechanic makes a change that renders your PC unbootable, WinXP will be able to revert to the moment before the cleaning session.

Other settings include the ability to scan additional drives or locations for orphaned shortcuts, create ignore lists, and generate custom scanning sets. From the Options interface, you can also set Registry Mechanic to run at Startup or instruct it to repair problems automatically. Finally, you'll gain access to the program's run logs from this interface.

Registry Mechanic's documentation is a bit spotty, but it's so easy and safe to use you shouldn't have too many questions. If your PC has become inexplicably bogged down, run your PC through a free, online Registry scan ([www.pctools.com/registry-mechanic](http://www.pctools.com/registry-mechanic)) or download the limited trial version of Registry Mechanic. After you discover how many problems you have, you may find yourself running to purchase this excellent product. ■

BY JENNIFER FARWELL



### Scoreboard

Performance 5  
Ease Of Use 4  
Installation 5  
Documentation 3  
Price 5  
**Overall Score 4.4/5**

## Spin It Again

\$34.95

Acoustica

support@acoustica.com

www.acoustica.com

### Scoreboard

Performance 5

Ease Of Use 5

Installation 5

Documentation 5

Price 4

**Overall Score 4.8/5**

## New Life For Old Cassettes & LPs

If you have shoeboxes filled with old cassette tapes, or your album collection is languishing in a corner, giving the word “dust jacket” new meaning, Spin It Again is for you. Designed solely to convert long-play (LP) albums, 45 RPM records, and cassette tapes to digital (MP3) format, Spin It Again is drawing raves from its users. The program couldn’t be easier to use: Installation is quick and painless, and when you open the program, it presents you with a simple, user-friendly interface.

Of course, you must connect a cassette player or a turntable before Spin It Again can perform its musical magic. Helpfully, the program’s Hookup Wizard can walk you through the process with clear, illustrated instructions. If you need new equipment—for example, if your old needle is worn out—a Purchase Equipment button will lead you to a variety of resources. (Playback Equipment is not one of the categories, but one of Spin It Again’s highlighted sites, [www.needledoctor.com](http://www.needledoctor.com), sells both turntables and cassette decks. Amazon.com is also a great place to look.)

Once you are ready to rock, the Level Wizard will help you set the optimum recording levels, and a variety of features and options will let you control hiss and pop removal, track splitting, and output format, including iPod, MP3, or CD. Spin It Again even offers operational tips, such as how to prevent the tone arm on your turntable from skating toward the center of a record.

Recording a big batch of albums or cassettes will take time, as Spin It Again cannot speed up the playback process. However, it may become a sentimental journey you’ll enjoy. Unless you have a player with audio-out jacks, your 8-tracks are probably toast, but those mix tapes you lovingly created and have saved since college will sound better than ever before. ■

BY JENNIFER FARWELL



## fhPrintScreen

\$15

Parade Distribution

info@fhprintscreen.com

www.fhprintscreen.com

### System Utilities

## Down & Dirty Screen Capture

In the early days of personal computing, users could press the PRINT SCREEN key to print the visual display on their screens. Since then, third-party developers have created sophisticated programs that can print or capture not only your entire display, but also a portion thereof. fhPrintScreen is such a utility, but it lacks the elegance and sophistication many of its peers offer.

fhPrintScreen works via the Quick Launch Toolbar, where it will appear by default if you do not uncheck the option during installation. (To turn on this toolbar, right-click the Windows Taskbar and select Toolbars and Quick Launch.)

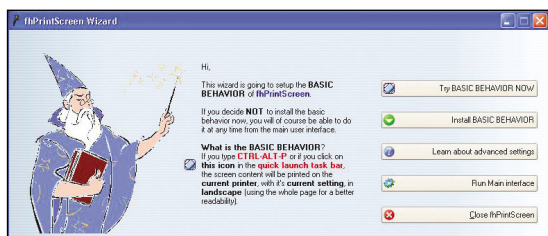
When you open fhPrintScreen after installation, a cartoonish wizard display pops up. The wizard isn’t well designed or even aptly named—it doesn’t walk you through anything. It presents a variety of buttons from which you

can initiate various operations. These include trying out the basic behavior (pressing CTRL-F-P, which sends the contents of your display to the printer), installing the basic behavior, and opening the main interface.

From the main interface, you can adjust settings, create hotkeys, and print or save screen displays. However, the interface is poorly structured, with little indication of how each option works.

This is not to say fhPrintScreen is without merit. If you want a one-click method to print or save online maps, driving instructions, or other displayed items, you may like this program. The price is certainly right, and we suspect if you play with fhPrintScreen a bit, you may be able to get past its quirks. If its capabilities interest you, download it and give it a try. Just don’t expect the user-friendly functionality you may have found with other, more advanced screen-capture utilities. ■

BY JENNIFER FARWELL



### Scoreboard

Performance 3

Ease Of Use 2

Installation 4

Documentation 2

Price 4

**Overall Score 3/5**



## Staff Picks: Our Experts Pick The Best Hardware



### PG-380U2

\$27 and up (online price)  
Penguin Gear  
sales@penguin-gear.com  
www.penguin-gear.com

### Penguin Gear Aluminum External Enclosure

I really didn't want to put another hard drive into my PC, but I needed more backup space. So did my wife, who needed a backup drive for her new laptop. I did, however, have a few perfectly good EIDE (Enhanced Integrated Drive Electronics) hard drives. The answer was to buy a couple of external hard drive enclosures. The Penguin Gear PG-380U2 turns EIDE drives into USB 2.0 external units. You can find it for about \$27 and up at sites such as Newegg.com.

Despite its low price, the Penguin Gear surprised me with its fit, finish, and functionality. Made of extruded, anodized aluminum, this pretty enclosure passively wicks heat away from

your hard drive without using a fan. Rubber feet keep the sturdy, stackable case from vibrating against your desk.

Besides a USB cable, the PG-380U2 comes with all it needs, from a power adapter to printed instructions. It's a little tricky to assemble, so take your time. Depending on your hard drive, a USB 2.0 kit like this will limit its speed to about 31MBps (megabytes per second).

Penguin Gear has made a solid, attractive enclosure that works very well. Here's proof: I bought another one for my mom. ■

BY MARTY SEMS

### COMPUTERS

Desktops <= \$1,500	Chad	HP Pavilion Media Center TV m7330n	HP	\$919.99	www.hp.com
Desktops > \$1,500	Josh	Prelude	Maingear	\$1,238.66	www.maingear.com
Notebooks <= \$1,500	Jennifer	Satellite A105-S2717	Toshiba	\$1,329.99	www.toshiba.com
Notebooks > \$1,500	Andrew	Aurora m7700	Alienware	\$2,329	www.alienware.com

### HANDHELDS

Handhelds & PDAs	Jennifer	iPAQ hx2495	HP	\$399.99	www.hp.com
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### INPUT DEVICES

Keyboards	Josh	Cordless Desktop MX 3100	Logitech	\$149.95	www.logitech.com
Mice/Trackballs/Trackpads	Kylee	V400 Laser Cordless Mouse For Notebooks	Logitech	\$49.99	www.logitech.com

### MONITORS/DISPLAYS

CRTs	Vince	G90fb	ViewSonic	\$259	www.viewsonic.com
LCDs <= 19 inches	Josh	VP920b	ViewSonic	\$479.00	www.viewsonic.com
LCDs > 19 inches	Josh	UltraSharp 2405FPW	Dell	\$799.20	www.dell.com

### PRINTERS

Inkjet <= \$150	Nathan	Deskjet 5940 Photo Printer	HP	\$89.99	www.hp.com
Inkjet > \$150	Nathan	PIXMA iP5200R	Canon	\$229.99	www.usa.canon.com
Laser <= \$200	Sam	ML-2550	Samsung	\$179.99	www.samsung.com
Laser \$200 to \$500	Sam	3100cn	Dell	\$399	www.dell.com
Laser > \$500	Sam	5100cn	Dell	\$849	www.dell.com
MFDs	Sam	MFC 9420CN	Brother	\$799.99	www.brother.com

### STORAGE

Flash Memory & Portable	Vince	1GB Cruzer Profile	SanDisk	\$99.99	www.sandisk.com
CD & DVD Drives	Marty	PX-755SA	Plextor	\$129	www.plextor.com
Hard Drives	Marty	Raptor WD1500ADFD 150GB	Western Digital	\$299.99	www.westerndigital.com

### VIDEO/PHOTO

Digital Camcorders <= \$500	Andrew	DZ-MV780A	Hitachi	\$449.98	www.hitachi.us
Digital Camcorders > \$500	Andrew	DCR-SR100 30GB Handycam	Sony	\$999.99	www.sonystyle.com
Digital Still Cameras Point & Shoot	Kylee	PowerShot S80	Canon	\$549.99	www.powershot.com
Digital Still Cameras Adv./Prosumer	Nathan	Cyber-shot DSC-R1	Sony	\$999.95	www.sonystyle.com
Graphics Cards <= \$150	Vince	e-GeForce 7300GS	EVGA	\$139.99	www.evga.com
Graphics Cards > \$150	Vince	All-in-Wonder X1900	ATI	\$499	www.ati.com

## Saitek Eclipse Keyboard

A good keyboardist can tap out upward of 80 words per minute, but any typist will get tired fingers if he doesn't have a responsive, comfortable keyboard. The action on the Saitek Eclipse keyboard is so smooth that you may feel like you're typing on air.

The Eclipse doesn't look like a typical keyboard. Many multimedia keyboards are loaded with various buttons, dials, and scroll wheels. Saitek felt that less would be more. The keyboard has only four extra buttons: two volume buttons, a Mute button, and a fourth button to control the keyboard backlighting. The keys are laser cut to show the letters in the dark, backlit by a bright blue glow. You can turn off the light if it's not your style.

The keyboard also has a good heft to it so it won't slide around.

More important than the look is its feel. The keys respond immediately to the slightest touch. This will take a little getting used to, and you may notice that you have more typos until you get used to the keyboard's sensitivity. Once you do get used to it, you'll be pounding out emails as fast as a pro. ■



### Eclipse Keyboard

\$59.95

Saitek

(310) 212-5412

[www.saitekusa.com](http://www.saitekusa.com)

BY MICHAEL SWEET

*An AMD Athlon 64 X2 4200+ processor is the heart of this system, which includes a single TV tuner and Windows XP Media Center.*

*Maingear's Prelude entry-level gaming PC series offers some quality components and upgradability.*

*This laptop has Centrino technology, 1GB of RAM, a TruBrite display, and a DVD burner.*

*Comes with your choice of Athlon 64 FX or X2 processors, which makes it ideal for gaming or other high-end applications.*

*This PDA has all of the right specs for my needs: Windows Mobile 5.0, Bluetooth, Wi-Fi, and integrated CF (CompactFlash) and SD (Secure Digital) card readers, for less than \$400.*

*The keyboard had plenty of media buttons, and the mouse has its own charge station. Goodbye, batteries.*

*Finally, a notebook mouse that will work on almost any surface. Compared to an optical mouse, this laser mouse can track movement accurately on a wider range of surfaces.*

*With more resolution than LCDs (liquid-crystal displays) of the same size, the G90fB will give you room for more windows on your Desktop. It's not too expensive, either.*

*Sure, it has an 8ms response time and a 19-inch display, but what really matters is that its stand is very adjustable.*

*At 24 inches, it's not the biggest kid on the block, but it's inexpensive and bright. It also has a three-year warranty.*

*A solid all-purpose printer that will let you print panoramic photos.*

*Fast printing speeds, excellent color quality, and best of all, built-in wireless networking.*

*With speeds of up to 22ppm (pages per minute) and a 30,000 page duty cycle, this black-and-white laser printer can power through heavy workloads.*

*For less than \$400, you can have a printer with a 45,000 page duty cycle and the capability to hold 576MB of memory.*

*A network-ready color laser printer that dishes out up to 35ppm black-and-white or 25ppm color. It also features a 90,000 page duty cycle.*

*This MFD (multifunction device) includes a color laser printer that can dole out up to 31 monochrome or eight color pages per minute. It also features a 48-bit scanner and 33.6K fax modem.*

*Because it uses biometrics, I don't have to forget a password anymore. Plus, it has 1GB storage for less than \$100.*

*Fastest DL burning speed, SATA, and an unusually low price (for Plextor).*

*Updated for outrageous speed and a more respectable capacity.*

*A quality affordable camcorder that records to DVDs, making sharing your videos very easy.*

*This camcorder features 30GB of built-in memory, enough that you don't have to mess with cassettes or discs. Perfect for the all-digital video freak.*

*This compact 8-megapixel camera has a wide-angle lens (equivalent to 28 to 100mm on a film camera) and many of the advanced settings typical of higher-end cameras.*

*With a superb lens and great image quality, it proves there's still room for fixed-lens cameras in this price range.*

*Upgrading to Windows Vista will probably mean upgrading your graphics card. This is a cheap way to do it.*

*Not only is it an awesome graphics card, its PVR (Personal Video Recorder) feature turns your PC into a TiVo without the monthly fee.*

# Internet Explorer 7 Beta 2 Preview

Microsoft seems to be introducing a new category of operating system: The Keep-Upgrade.

Take Windows Vista, the new version of Windows expected (as of press time) early next year. Many of Windows Vista's features—such as computer-wide search, ways to view all open windows on the Desktop, a built-in calendar that integrates with built-in email, little graphical applications, and the ability to function as the control center of your home entertainment system—are variations of features and functionality introduced two years ago in Apple's OS X.

Then consider Internet Explorer 7, the new browser that will ship with Windows Vista. IE7's list of "new" features includes tabbed browsing, a simpler way to erase your Web-surfing footsteps, a built-in RSS (Really Simple Syndication) reader, and address bars in every

## Remember, It's Still In Beta

Of course, before you download, you need to know two things. First, when you install the IE7 Beta 2 Preview, you won't be able to access the version of IE already installed on your computer. Second, because it's **beta**, or unfinished and still being tested, software, it may not work as reliably as its predecessors. We encountered such issues as overall slow performance and an inability to run a RealPlayer plug-in.

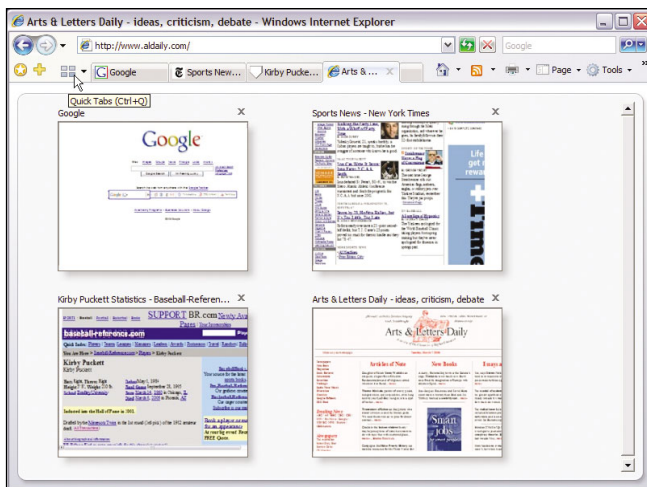
Consequently, our advice is that if you depend daily on IE—for example, if you must use IE to log in to a work application—you may want to limit your IE7 previewing to reading this article. If you can do most of your browsing with Firefox, Netscape, or Opera, install one of those browsers first and then install the IE7 beta. You can always uninstall IE7 and revert to IE6 if need be; see the instructions at the end of this article.

## Fire It Up

If you decide to download the preview, back up any important files. Point your browser to [www.microsoft.com/windows/ie/ie7/ie7betadirect.msp](http://www.microsoft.com/windows/ie/ie7/ie7betadirect.msp) and click Download. Save the file to an easy-to-remember location; then, from that place, double-click the setup file (IE7B2P-WindowsXP-x86-enu.exe) and click Run. Click past the screen that recommends backing up important files, validate your version of Windows, and install the latest updates for IE when prompted. The beta installation will begin shortly thereafter.

If you've installed Microsoft AntiSpyware (also called Windows Defender) during the IE7 beta installation, you'll see a few warnings as IE7 temporarily changes your home page and other navigation pages. Accept these changes and let the installation continue. Restart your computer when prompted.

The first page you'll see is the Customize Your Settings page, where you can turn on IE's new Phishing Filter, specify your location, and join Microsoft's Customer Experience Improvement program, which collects anonymous data from your machine (anonymous or not, we passed on this). Click the new Home Page button the first time, and you'll be taken to Microsoft's IE home page; click it again, and any time thereafter, and you'll be taken to whatever default home page you specified in IE6.



IE 7's better-late-than-never tabbed browsing includes a Quick Tabs button that displays thumbnails of the page in each open tab.

window, all of which you may recognize from Firefox, Netscape, and Opera.

To be fair, IE7 does have a couple of new features all of its own. Much more important, however, is that IE remains the browser for which most Web site designers design and test their Web sites. So once IE7 becomes available, you'll probably want to download and use it, perhaps even alongside other browsers. Until then, you may want to download and try the IE7 for Windows XP Beta 2 Preview to get a hands-on sneak peek at what the new browser can do.



## New Look, New Features

IE7's design differences don't exactly jump out, but once you start surfing, they're apparent. For example, the new, unlabeled Back and Forward buttons and the Address and Search bars are now above the menu. Just below the menu is something else that's new (at least to IE): tabbed browsing pages. Click the button to the right of the tab(s), and IE opens another, to a blank page, which you can populate by entering another address in the Address bar.

To the left of the tabs is the new Quick Tabs button. Click it, and IE7 displays thumbnails of all your tabbed pages, any of which you can click to move to the corresponding page. On the right of the tabs is IE7's new Feeds button, which tells you if an RSS feed is available from the page you're viewing and makes subscribing to them easy. When the Feeds button turns red, click the arrow next to it and select the desired feed; on the page that appears, click Subscribe to this feed, which adds the feed to your list. Curiously, to view your feeds, you have to click the Favorites Center button and click the Feeds tab.

Click the new Tools button, and you'll see the new Delete Browsing History command, which takes you to a window that lets choose what browsing "tracks" to clean up. You can also delete them all at once using the Delete All button.

## More Security Features

Once you install IE7, there's something you'll never *not* see again: your Address bar. Unlike its predecessors, IE7 locks the Address bar in place; spyware and adware can't move or remove it. IE7 even displays the Address bar on any pop-up windows that sneak through the pop-up blocker or that you allow to display.

All-the-time Address bar display is just most visible of IE7's security improvements. ActiveX, which creates a vulnerability that malicious code authors love to exploit, no longer runs amok. According to Microsoft, IE7 disables virtually every ActiveX control you haven't already specifically enabled and then prompts you for permission whenever a program wants to enable a new control. IE7 also includes a new phishing filter that checks the URLs of Web sites against lists of known fraudulent sites and checks site content for characteristics common to fraudulent sites.

IE7 offers many more security and privacy features and improvements, far too many to list here. Visit Microsoft's Internet Explorer 7 home page ([www.microsoft.com/windows/ie/ie7/default.mspx](http://www.microsoft.com/windows/ie/ie7/default.mspx)) for more information.

## Easier On The Eyes, On-Screen & In Print

With IE7, you can zoom in on, or out of, any Web page; just hold down the CTRL key and roll your mouse wheel forward or backward. A feature previously offered only in Opera, this is a big help when you're straining to read tiny Web type or trying to fit a wide page into the width of a browser window.

On the topic of fitting wide Web pages into tight spaces, IE7 adds another feature that will thrill anyone who ever unsuccessfully tried to print an allegedly



A new Feeds button (top right) tells you which feeds are available from the current page; once you subscribe to a feed, you can get to it directly from the new Favorites Center pane (left).

printer-friendly Web page: It can automatically shrink any Web page to fit the width of your print margins. This means you no longer have to suffer truncated Web page printouts. And when you select a specific region of a Web page for printing, IE7's Print Preview finally displays only that region, so that you can preview your selection exactly as it will appear in print.

## If You've Seen Enough

While these and other IE7 features will be tough to give up, our guess is that once you've had a look, you'll want to switch back to IE6 and wait for the final product. If this is the case, click Start, choose Control Panel, and click Add Or Remove Programs. Select Show Updates and then scroll to the very bottom; under Windows XP – Software Updates, click Internet Explorer 7 Beta 2 Preview and click Remove. You'll be returned to the IE you remember, as uninstalling IE7 will automatically bring back IE6. ■

BY MARK SCAPICCHIO

# Using The Windows 98 Device Manager

Windows 98's Device Manager lists all the devices installed in or connected to your PC, such as your CD drive, printer, and mouse. It can show you at a glance if any devices are malfunctioning or not installed properly. It can also tell you what driver version each device is using (a **driver** is a file or group of files that lets Windows use a device) and let you change some settings if you need to troubleshoot a problem.

If it sounds like the Device Manager is a neighborhood you should be familiar with, you're right. Here are some directions to it, along with some sights to see and troubleshooting suggestions to try while you're there.

## You Can Manage

To open the Device Manager in Win98, right-click My Computer. Choose Properties and the Device Manager tab. Alternatively, you can click Start, Settings, Control Panel, System, and the Device Manager tab. Other recent Windows versions, such as WinMe/2000/XP, also have Device Managers you can access with similar steps.

You'll see a list of device categories, sorted by type. Click the plus (+) sign next to a category, such as Display Adapters. This will reveal the devices currently connected to your computer in that category, such as an ATI Mobility Radeon 7500 graphics adapter. It also can tell you the real name of the mechanism or chipset inside a device, which may differ from the model number or brand on the product's label.

If any devices are causing problems for your system, the Device Manager will show it with either a red X or a yellow circle icon with a black exclamation point. The red X means that the device has been disabled or doesn't work for some reason. The yellow icon means that Windows recognizes the device, but it wasn't installed properly or its driver has a problem. To

troubleshoot a problematic device, you'll need to look at its Properties in the following section.

Other buttons on the Device Manager tab include Refresh, which updates the list to reflect recent changes; Remove, which you can use to uninstall a device; and Print, which tells your printer to give you a hard copy of a device summary.

## Properties

Double-click a device to open its Properties panel or click the device once to select it and then click the Properties button. You'll see one or more tabs, depending on the device.

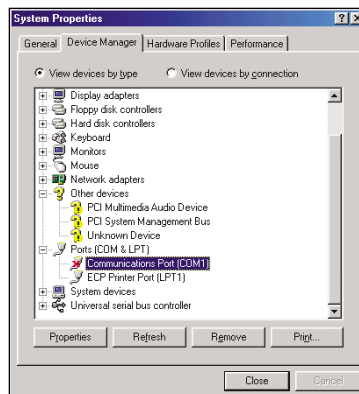
**General.** The General tab gives you some basic information such as the manufacturer and version number of a device, if the product reports these. One point of interest is the Device Status window in the center of the panel, which tells you whether the gadget is working. If not, you may see Windows' guess as to the cause of the trouble, such as a missing or incorrect driver, and perhaps a button such as Reinstall Driver or Enable Device.

Speaking of enabling, there's a checkbox near the bottom of the tab labeled Disable In This Hardware Profile. If you want to shut off a device for some reason, such as if it's interfering with some other part of your com-

puter, here's the on/off switch to use. Disabling hardware keeps Windows from trying to use it without requiring you to physically remove the device from your PC.

**Driver.** When a friend or tech support guru advises you to make sure you have the latest drivers for a graphics card or other component, click the device's Driver tab. Here, you'll find the date of the drivers currently installed for the device. Click Driver File Details for the version number.

If the manufacturer's site offers a later driver for a device that's giving you trouble, follow the directions to



**As soon as you open the Device Manager, you'll see whether any devices aren't working correctly. They'll have yellow caution icons or red Xs.**

download the driver file and install it. Generally, after you download a driver file, you double-click it to install the new driver. If an installation wizard doesn't appear, indicating that the download isn't an executable file, click the Driver tab's Update Driver button to tell Windows to

look for the new driver in the folder in which you saved the download.

**Resources.** This tab lets you change a few settings that Win98 normally manages by default. You'll only change resource settings in rare cases, such as if you're trying to get your sound card to work with an old DOS application or game or your PC has an inordinately large number of devices attached to it.

To change resource settings, deselect Use Automatic Settings. Double-click a setting, such as

Interrupt Request (IRQ), Direct Memory Access, or Input/Output Range, and choose a different value. Click OK twice and Yes twice, and your PC will restart. Note that Win98 won't let you change some settings. Also, you might cause a conflict between two devices that can't share an IRQ. If your changes don't solve your problem, reselect Use Automatic Settings.

**Settings.** This tab varies by device. Optical drives' Settings tabs have a few items of interest, especially the firmware version and the Auto Insert Notification checkbox. If you uncheck the latter, your PC will stop asking you what you want to do with every CD or DVD you insert into the drive. On the other hand, if you've already told Windows to perform certain functions when you insert a disc, such as to automatically play the music on an audio CD, disabling Auto Insert Notification will shut off this feature, too.

Internal hard drives and optical drives have DMA (direct memory access) checkboxes in their Settings tabs. If DMA is deselected, a drive may seem to run very slowly. However, you should verify that your specific model of hard or optical drive can support DMA data transfers (most made since the late 1990s can) before you enable this checkbox. Some old systems refuse to recognize a drive after a mistake like this and won't let you easily disable DMA again.

Some devices have more technical settings that you should only change under specific troubleshooting

advice from Microsoft, a hardware manufacturer, or another trusted source. For example, under System Devices, the PCI Bus, Numeric Data Processor, Direct Memory Access Controller, and others have specialized Settings tabs. Actually, the System Devices category is generally better left alone unless you have a good reason to change something. Devices listed here allow Windows to interact with your computer's motherboard, CPU, and other basic components. An incorrect setting here could prove difficult to fix.

**Port Settings.** An old, external, dial-up modem might use a 9-pin serial communications (COM) port on your PC. The Port Settings tab, available under Ports (COM & LPT) and Communications Port (COM1), lets you tweak some values such as Bits Per Second and Parity in order to get a serial device to work.

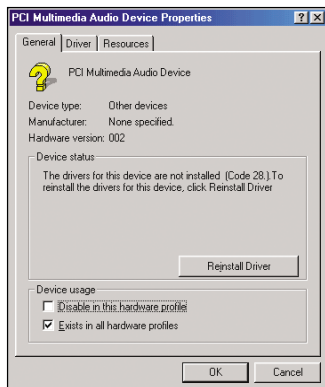
## Ghosts In The Machine

If you've installed and uninstalled several devices over the years, Win98 may still be loading drivers for hardware you no longer use. You can get rid of these resource hogs in Safe Mode. To work in Safe Mode, restart the PC and hold down CTRL or F8 during the boot process. Use the arrow keys to choose Safe Mode from the list of options and press ENTER.

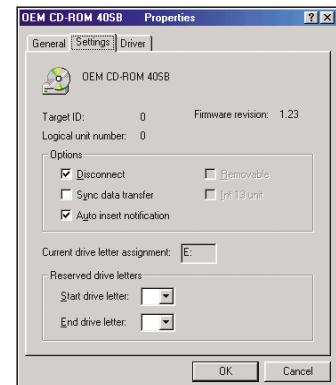
In Safe Mode, Device Manager may show you several ghost devices no longer installed in the PC

along with the normal list of components that are still attached. Right-click the devices you're sure you no longer use and then click Remove and OK. Our test computer showed 19 nonsystem devices during normal use, but revealed 26 such devices in Safe Mode. That meant there were seven entries we could delete, which reclaimed a little wasted RAM and CPU cycles.

With a working knowledge of the Device Manager, you can troubleshoot many more problems in Win98. That means more control over your PC and more enjoyment when you use it. Hey, we could all use more of that, couldn't we? ■



Double-click a problem device to see its Properties panel. Windows will tell you what it thinks is wrong, and it may suggest a fix.



The Auto Insert Notification feature in a CD or DVD drive's Settings tab allows Windows to do something automatically when you insert a disc, such as to play a movie DVD or to open a folder showing the disc's contents.

BY MARTY SEMS



# Troubleshoot Your WinXP Network With Ipconfig & Ping

**I**t's probably happened to you at least once—you sit down in front of the computer to browse the Web or check email, only to discover that your system doesn't appear to be connected to the Internet.

That's an easy conclusion to come to, but it's a bit more difficult to figure out exactly why you can't connect and what you should do to fix it. Windows XP includes two network utilities, Ipconfig and Ping, that can help. Although both are command-line utilities, both can be enormously helpful in identifying the cause of and solving a network problem.

## Ipconfig

Whenever you're having a problem connecting to the Internet, the first step toward resolving the problem is to verify that your system has a valid IP (Internet Protocol) address. This is easily accomplished using Ipconfig (IP Configuration), a utility that lets you determine whether TCP/IP (Transmission Control Protocol/Internet Protocol; a language that controls communications among computers on the Internet) is running and correctly configured on your computer.

To run Ipconfig, you need to first access a command-line window, which you can do by clicking Start and then Run, typing CMD, and pressing ENTER. In the command line window, type IPCONFIG and press ENTER to see basic IP configuration data for each network adapter installed on your system. This information includes the adapter's IP address, subnet mask, and default gateway.

Most home computers are connected either directly to a cable/DSL (Digital Subscriber Line) modem or to a router (which in turn is connected to the cable/DSL modem) and typically get their IP addresses automatically from one of those devices (the one it's directly connected to) via DHCP (Dynamic Host Configuration Protocol). When TCP/IP is correctly configured, you should see entries under all three Ipconfig headings: IP Address, Subnet Mask (almost always 255.255.255.0), and Default Gateway. In most cases when there's a router on your network, the computer's IP and default gateway addresses will both begin with 192.168—only the last numbers of the address should be different.

## Identifying Problems

There are a number of warning signs in Ipconfig that indicate an IP configuration problem. If Ipconfig reports your network adapter's IP address as 0.0.0.0 or if the address starts with 169.254, it usually indicates that your system requested an IP address but didn't get one for some reason, which does happen from time to time. To manually issue a new address request, type **IPCONFIG/RELEASE** to reset the connection; when the command prompt reappears, type **IPCONFIG/RENEW**. In many cases, this will resolve the connection problem, but another option is to right-click the adapter's icon in Network Connections and choose Repair. This will not only reset and renew the IP address request, but also disable and re-enable the adapter itself.

Running Ipconfig from a command prompt will display basic configuration information for all your system's network adapters

If your adapter doesn't list any IP information but instead reports Media Disconnected, it probably means your network cable has become detached or that the router or cable/DSL modem at the other end of the cable isn't plugged in or powered on. (In the case of a wireless network adapter, this message means that you're not connected to the wireless network.) You'll need to rectify these issues before attempting to obtain an IP address.

## Ping

Ping is a simple utility that tests the network connection between two computers. This makes it an extremely

valuable tool to help isolate a connectivity problem and determine whether it lies with your equipment, your ISP's (Internet service provider's) equipment, or somewhere on the ISP's network.

Once you've used Ipconfig to make sure your system's IP configuration is correct, the next step is to use Ping to methodically test the connection along various points along the link from your computer to the Internet. As with Ipconfig, it's best to launch a command line window, so the results of the command stay on your screen long enough for you to read them. If you use a software firewall, it's also important to disable it before using Ping because the default configuration of most software firewalls will suppress Ping responses, rendering it useless as a diagnostic tool.

**Step 1.** The first link in the chain to ping is your computer's internal TCP/IP connection. You can do this by typing PING, a space, and then 127.0.0.1. Press ENTER. The address 127.0.0.1, also known as the loopback, is a special address which is a stand-in for your computer's real IP address. Alternatively, you can enter your computer's actual IP address or localhost—all three are equivalent. After you execute the Ping command, you should receive four replies in rapid succession formatted as follows: Reply from 127.0.0.1: bytes=32 time<1ms TTL=128 followed by some summary information. (If you ping your actual IP address, the response will come from that address instead of the loopback.)

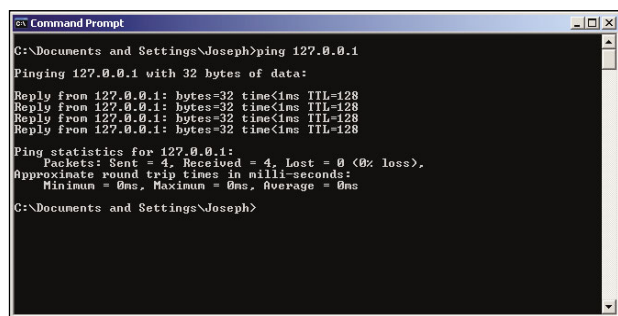
**Step 2.** The next link to test is the connection between your computer and the router or the cable/DSL device it's connected to. In either case this device is known as your default gateway—its IP address can be found under that heading when you run Ipconfig. (If your system is connected to a router, the address is usually 192.168.1.1 or 192.168.0.1, but if your system is connected directly to a cable/DSL modem, it may be something else.) When you ping your network's default gateway, you should receive four prompt replies from that address, much as you did when you tested your system's internal connection. If you don't get those replies and instead receive Destination Host Unreachable or Request Timed out, it probably means that the device is disconnected or malfunctioning. Checking the network and power cables and/or restarting the device will often clear up the problem.

**Step 3.** If you were testing the connection to a router in the previous step, the next connection to test is the one to your cable/DSL modem. (If your system is connected directly to your cable/DSL modem, skip this step.) When a cable/DSL modem is connected to a router instead of to a PC, you can't get its IP address via Ipconfig. The best way to get it is to log in to your router's administration console and look it up on the router's status screen. It's usually

listed as the Internet or WAN address, but because routers vary as to where they display this information, check your device's manual on how to find it.)

After you've located your cable/DSL device's IP address, ping it just as you did the previous addresses. If you don't get replies, check the network and power cables and restart both your cable/DSL modem. If this doesn't restore your connection, a call to your ISP is probably warranted.

**Step 4.** After you've successfully pinged all the devices on your premises, the final step is to try to ping an address on the Internet. (Trying to access a Web page is often a reliable indicator of connectivity, but it isn't



```
Command Prompt
C:\Documents and Settings\Joseph>ping 127.0.0.1
Pinging 127.0.0.1 with 32 bytes of data:
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Ping statistics for 127.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\Documents and Settings\Joseph>
```

**Pinging the special 127.0.0.1 address verifies that TCP/IP (Transmission Control Protocol/Internet Protocol) is working correctly on your system.**

conclusive because the problem could be with your browser or the specific site.)

To verify that your system is reaching the Internet, ping a Web site you frequently visit. It's not necessary to know the actual IP address of the site; using a friendly name such as Yahoo! (www.yahoo.com) is fine. Because you're only trying to verify a connection to the Internet, not necessarily a specific site, you don't need to include www in the address; it doesn't matter if you do include it, though the reply might appear to come from a slightly different address from the one you pinged depending on how the site has been set up. To do so, at the command prompt, type **ping yahoo.com** and press ENTER.

Many major Web sites intentionally don't reply to pings. If you don't get a reply when pinging a site, check to see whether the response includes the site's numerical IP address. If it does, this indicates your Internet connection is working because that address must be looked up from a DNS (Domain Name Server) on the Internet. If you don't get a reply to a ping command and the response doesn't include the IP address of the site you pinged, it probably means your ISP is having network problems, and you'll need to get in touch with it. ■

BY JOSEPH MORAN

## Hardware & Software Reviews

With so much information out there about computers and technology, it can be difficult to know where to start when looking for answers. What should I consider when buying a digital camera? Should I buy a new PC or update my old one? Before you make your next purchase, make sure you take a look at our Hardware Reviews and Software Reviews sections for another opinion. Reviews are separated into easy-to-find categories, including Audio, Computer Parts & Components, Input Devices, and much more. You'll find all sorts of great articles on topics ranging from mobile computing and media players to operating systems and printers. You can find articles not only from *Smart Computing*, but also *PC Today* and *Computer Power User*. Search these articles and make your next purchase a smart one.

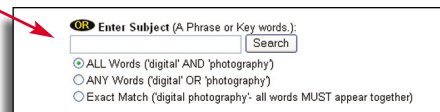
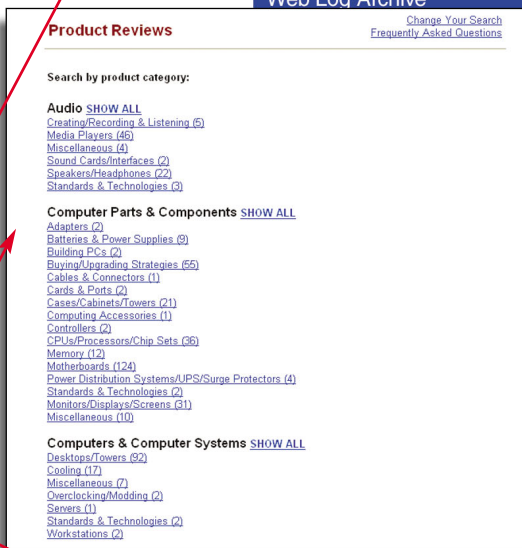
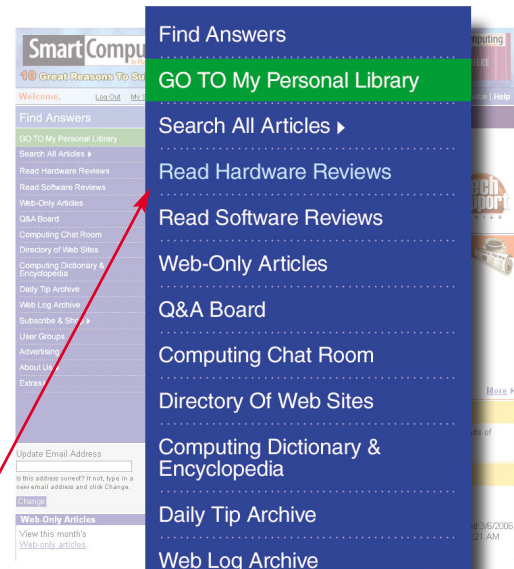
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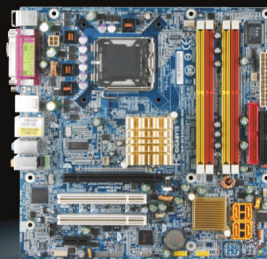
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# PGP To Be Surely Secure

## How Pretty Good Privacy Protects Your Data

**T**oday's selection of file-related security programs is vast, but years ago, only a handful of utilities let users encrypt files and perform other security-related tasks. One of those was PGP (short for Pretty Good Privacy), a program that spread like wildfire in the early '90s as a go-to source for everyday file encryption.

Although PGP now has plenty of competition in the encryption realm, PGP Desktop Home 9.0 (\$99; [www.pgp.com](http://www.pgp.com)) remains an effective tool for securing files, entire hard drives, and even instant messages. Unlike many basic encryption tools, PGP Desktop Home 9.0 employs public key cryptography, which is technology that stretches beyond the concept of plain password protection.

This system uses a public key, which it can send to anyone or store on a keyserver, such as PGP's own PGP Global Directory (<https://keyserver-beta.pgp.com>), an electronic public directory that serves as a repository for public keys. The public key is useless without the corresponding private key, which remains only on your computer. Using this system, someone can encrypt a file using your public key, but only you can read it because only your private key can decrypt your public key.

### Hassle-Free Security

If not executed properly, public key encryption can be unwieldy and full of hassles, but PGP Desktop Home 9.0 streamlines the encryption process so that it's as painless and transparent as possible. After all, most users wouldn't bother to secure most, if any, files if they had to jump through hoops to do it, so this program automates many processes to spare you from such headaches.

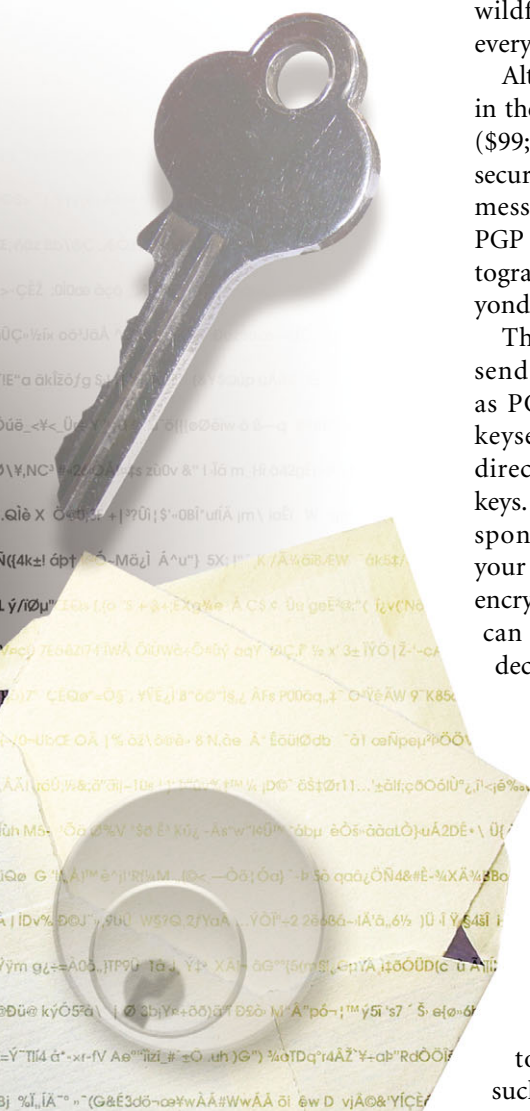
For example, previous iterations of PGP used plug-ins to work with specific email clients, but PGP Desktop Home 9.0 now uses proxy technology, which can automatically encrypt, sign, decrypt, and verify email messages sent and received using most email clients. Of course, using PGP doesn't mean you need to encrypt every email that leaves your computer because the program lets you specify encryption based on particular recipients, domains, message priority, or message content. These variables are relatively easy to configure and include plenty of options, such as the ability to instruct PGP to automatically search for recipients' keys.

PGP also includes encryption for AIM (AOL Instant Messenger) text messages and file transfers, but like the mail service, the people you're communicating with also need to be using a current version of PGP. If you're both using PGP and enable encryption, all your conversations and attachments are automatically encrypted and decrypted and you won't even realize it's happening. As instant messaging becomes an ever-more vital means of communication, this feature can finally let you divulge personal and financial information without worrying that your chats might be intercepted.

### Failsafe File Protection

In its most basic form, PGP Desktop Home 9.0 protects files—and protects them well. PGP Zip, which is part of PGP Desktop Home 9.0, lets you create encrypted, compressed archives of files that you can distribute or use as backups of files on your hard drive. These archives can contain multiple files or just a single file, but even if you want to encrypt just a single file, you'll need to create an archive to do it.

Once created, you can choose to protect archives using public key security, or you can opt instead to protect them using a passphrase that lets



people without PGP open them. If you use a passphrase, a dialog box displays the quality, or strength, of your passphrase as you type it. But like using other encryption methods, the passphrase method isn't quite as reliable as public keys if you intend to distribute archives because you'll need to distribute the passphrase, as well.

Creating a PGP key is a simple process that involves clicking a few buttons and typing some information in dialog boxes, including your name, primary email address, and passphrase. PGP's Global Directory Assistant will help you place your key on the Global Directory, after which you'll receive a confirmation email to confirm the placement of the key in the directory. After your key appears, people will be able to search for your key by name, email address, or key ID. If you choose not to make your key public initially, you can do so at any time by visiting the Global Directory and manually uploading your key.

PGP also lets you encrypt an entire hard drive, a process that uses sector-level encryption to guarantee the complete encryption of all stored data. This feature can be useful for second or third drives on desktop machines, but it's especially handy for protecting mobile computers. After all, if you encrypt your notebook computer's entire drive and the system gets stolen, the thief will be unable to access any of the data on your hard drive.

A similar feature is PGP Virtual Disk, which lets you create new, encrypted drive partitions where you can keep all of your sensitive files. Even if this volume exists on a hard drive that's unencrypted, the volume remains locked until you unlock it, and you can also specify a length of idle time that the drive remains unlocked before it automatically locks. When you access the files, PGP automatically and transparently decrypts them and encrypts them again

when they're closed, so even when the volume is open, the files remain encrypted. Like the PGP archives, you can protect virtual partitions by using public and private keys or passphrases.

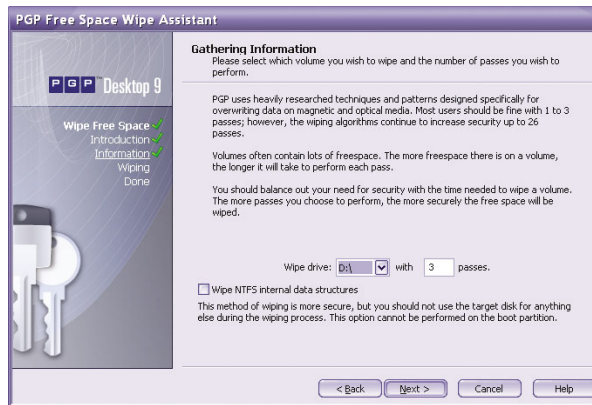
For files you no longer need, PGP also includes a shredding utility

to wipe with anywhere from three passes up to 26 passes.

## Consider Encryption

Even if you're using antivirus software, antispyware, and a properly configured firewall, your data is still at risk when transferring it via email, file

**Because files you delete don't actually leave your hard drive, PGP's Free Space Wipe Assistant can help ensure that deleted files are truly gone for good.**



(aptly called PGP Shredder) that overwrites files anywhere from three to 28 times. This procedure permanently erases files, unlike files emptied from the Windows Recycle Bin, which can remain on your hard drive even after deleted and can be recovered using file recovery software. To erase files you already deleted using standard deletion, PGP's Free Space Wipe Assistant will erase the deleted data stored on any of your hard drives, again giving you the option

sharing programs, instant messaging applications, and other distribution methods. Further, none of these programs will stop anyone from accessing your files on your desktop or notebook computer in person. PGP Desktop Home 9.0 ensures that your files are accessible to only you and any recipients that you designate using technology that won't put a cramp in your computing style. ■

BY CHRISTIAN PERRY

## Protect Your Mobile Devices

**A**t one time, PGP Corp. sold a product called PGP Mobile, which provided encryption for devices using Palm OS and Windows CE, but the company has since pulled the product from the market. Although we haven't been able to find out why the company stopped selling this useful utility, many mobile users

continue to seek PGP Mobile software to gain the same stalwart security that desktop and notebook users enjoy.

While you might be lucky enough to unearth a trial version of PGP Mobile, you'll be out of luck when the trial ends because PGP no longer supports the product. However, that doesn't mean you can't utilize

encryption on your handheld device; there are now other applications available that provide features similar to those found in the now-deceased PGP Mobile. Check out SoftWinter's Sentry 2020 for PocketPC (\$49.95; [www.softwinter.com](http://www.softwinter.com)) and Proporta's ProLock for Palm OS (\$10.43; [www.proporta.com](http://www.proporta.com)). ■



# Which File Goes With Which Application?

## Common File Associations & How To Change Them

One of the nice things about Windows is that when you double-click a file, such as a document or a video, an app launches to open that document or play that clip. Because of this, you can easily see that DOC word processing files are associated with Word (or AbiWord, or OpenOffice.org) and that MPG video files are associated with QuickTime (or Windows Media Player, or another video-enabled utility).

We've become a little spoiled with this feature, though, and we occasionally run into a problem when a new application or update makes a different program open certain files when you double-click them. For instance, if you use PowerDVD to play DVDs on your computer but you install Nero 7 with its default settings, you'll find that Nero Showtime now appears instead of PowerDVD when you insert a movie disc.

In order to change things back to the way they were, you need to adjust your file associations. Our directions will help you designate which app you want to open each type of file and then set that app as the default program.

### Typical Cases

In most cases—regardless of whether you're using Windows XP, 2000, Me, or 98—you can right-click a file and choose Open With. In Win98 you may have to

click a file once to select it and then hold down the SHIFT key as you right-click the file to see the Open With option. Depending on the file, Win2000/XP users may see a short list of programs next to the Open With option in the context menu; select one of these or click Choose Program.

The Open With dialog box that appears in Win98/Me/2000/XP is the same one you see when Windows tries to open a particular file type for the first time. If you're sure you've selected the correct program, select the Always Use This Program To Open This Type Of File checkbox (or a similar option).

If the app you want doesn't appear in the Programs list, you'll need to tell Windows where to find the program's

executable file (which probably has an .EXE extension, such as Winword.exe). Click Browse or Other. The Open With window that appears will probably start the search in the C:\PROGRAM FILES folder, which may be where most of your apps are installed. Look in the folder that features the application name, such as C:\PROGRAM FILES\MOVIE MAKER for the Windows video-editing app, or one that features the name of the app's developer, such as C:\PROGRAM FILES\ADOBE in the case of Acrobat Reader.

There may be several EXE files in the app's folder and subfolders, so double-click one with a file name that's similar to the program's name, such as C:\PROGRAM FILES\MOVIE MAKER\Moviemk.exe or C:\PROGRAM FILES\ADOBE\ACROBAT 7.0\READER\Acrord32.exe. Click OK when you finish. You may need to try more than one EXE file to find the correct executable to open the file type with the designated application.

If these typical steps don't work, you may have to dig further into Windows' file association settings.

### WinMe/2000/XP Association Settings

In WinMe/2000/XP click Start, Settings (if applicable), and Control Panel. Double-click Folder Options and click the File Types tab. Below Registered File Types, you'll see a long list of file extensions (the last three or four characters in a file name, such as the .ZIP extension in the MyBackup.zip file). A file extension tells Windows what type of file it is.

Scroll down the list until you find the extension for the file type you want to open with a different app, such as JPEG (Joint Photographic Experts Group) photos. Select the extension to highlight it. In the lower half of the window, you'll see the name and icon of the associated application after the heading Opens With. In our case,



Microsoft Office Picture Manager was set to open JPEGs, even though we wanted to use another program that was already associated with JPEG files using the shorter extension of .JPG.

To associate a file extension with a different app, click Change. Scroll down the Programs list and click the app (LView Pro in our example) once. If you're sure that's the app you want to associate with the file extension in question, select the checkbox next to Always Use The Selected Program To Open This Kind Of File; otherwise, Windows will ask you every time you double-click that file type. Of course, you can select or deselect that checkbox later. Click OK when you finish.

In WinXP you also can click the link labeled Look For The Appropriate Program On The Web. If Microsoft recognizes the file extension, it may describe the file type briefly and suggest a few programs that might be able to open it. This free service is occasionally helpful, but don't hope for too much. You might have better luck searching for the extension using an Internet search engine, such as by typing **ABW files** in a search field at Google ([www.google.com](http://www.google.com)) or Yahoo! ([search.yahoo.com](http://search.yahoo.com)).

## Win98 Association Settings

If the typical steps we described previously in this article don't fix your problem in Win98, your next step will be a little trickier. This step also is used in WinMe/2000/XP to tell Windows to open different applications for different actions, such as Edit or Preview.

Click Start, Settings, Folder Options, and the File Types tab. Choose a file type and click Edit twice. Right-click the Application Used To Perform Action field and choose Select All. Next, press CTRL-C to copy this file path and all of its modifiers at the end, such as "C:\PROGRA~1\MICROS~2\2003\OFFICE11\ois.exe" /shellEdit "%1". Open a text editor, such as Notepad (click Start, [All] Programs, Accessories, and Notepad), and then press CTRL-V to temporarily paste the file

path in the text editor's window. The reason for doing this is because you'll want to make sure you copy and paste the modifiers (such as /shellEdit "%1") with all the proper spaces and quotation marks (as in our example) to the end of the new file path you'll choose.

Click Browse to find the EXE file of the app you want to use and then double-click the EXE file. In our case, the Application Used To Perform Action field then read: "C:\Program Files\LView Pro 20\LView-Pro.exe". Finally, copy and paste the modifiers of the original file path to the end of the new file path, preserving all spaces and quotation marks, such as we did in our example, which read: "C:\Program Files\LView Pro 20\LView-Pro.exe" /shellEdit "%1". If you don't add the modifiers, WinXP might fail to open the correct app. Click OK and Close (as needed) when you finish.

If the new app now launches when you double-click the file (or right-click it in WinMe/2000/XP and choose Edit or Preview), you can close the text editor without saving the file path and modifiers.

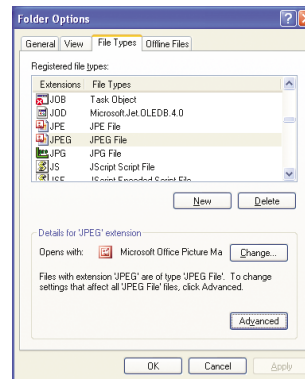
## WinXP Default Applications

In a sense, you also can adjust file associations by changing the default app settings in WinXP with SP1a (Service Pack 1a). Click Start, Control Panel, Add Or Remove Programs, and Set Program Access And Defaults. Rather than associating applications

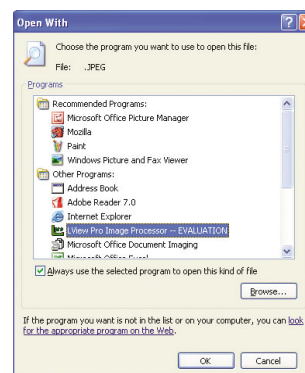
with files per se, WinXP's default app manager lets you choose which program launches for various types of activities, such as sending email or using instant messaging. However, because some of these activities involve opening

certain types of files, the overall effect of making changes here can be similar to adjusting your file associations elsewhere.

After choosing Set Program Access And Defaults in the left pane, select the Custom radio button in the right pane. The Custom section's arrow icon expands and hides its list of activities and associated applications. You can choose a default browser, Java virtual machine (common plug-in that lets your PC run Java-based content), and other apps, and you can even disable access to certain programs. Configurations other than the Custom option let you choose to simply use all Microsoft apps, no Microsoft apps, or whatever the manufacturer of your PC set as the original defaults.



**Once you find the file extension you want to reassociate, select it and click Change.**



**Windows will suggest some applications it can associate with a file type, although some of them may not work.**

## Watch Your Associations

The next time you install an application, look through the file types it wants to associate with. Many installation routines let you deselect checkboxes next to file extensions you'd rather continue to let another program handle. A little scrutiny here can save you a lot of file reassociation adjustment later. ■

BY MARTY SEMS

# While My Computer Gently Weeps

Notes From ~~Mr. Mop-Top's~~ . . . Um, Mr. Modem's Email Bag

**“W**hen I was younger, so much younger than today; I never needed anybody's help in any way.”

When Paul and I wrote those lyrics years ago—before he hooked up with that Lennon fellow—the songwriting team of Modem & McCartney was knocking 'em dead throughout Liverpool. It was years before computers, of course, but as I would set up our equipment at the clubs, the technology of the day was simple. I never *did* need anybody's help in any way.

It was fun while it lasted, but then I moved on to a glamorous life as a writer and publisher, helping others with their computer and Internet problems. I don't know what happened to Paul. We lost touch sometime in the early '60s, but if he reads this, I hope he gets in touch.

Speaking of help—and they don't call me the Prince of Segues for nothing—today, anyone who uses a computer needs a helping hand from time to time. That, of course, is my reason for living and why it's such a privilege to connect with you here via the hallowed pages of *Smart Computing* each month. This month, I thought I'd reach into my email bag to see what's on your mind:

**Q. Dear Mr. Modem: What can I do to block email from a particular person? She's a friend, but if I receive 20 emails, 15 of them are from her, and they're jokes, chain letters, etc.**

**A.** The best thing is to send your friend an email, thank her for thinking of you, and explain that with the volume of email you receive, it's just not possible to read all the jokes, etc. If she's a friend, she'll understand and probably apologize. On the other hand, if she's insensitive to your wishes or offended, then she isn't much of a friend, anyway.

If you block her address, you'll never receive anything from her, and that's not well advised in the case of a friend. At some point she may need to contact you about an important matter or ask for your opinion about something. If you don't respond, sooner or later you'll have to 'fess up that you've been blocking her address. If that occurs, you can rest assured her first question is going to be, “Why didn't you just tell me?” “Homina, homina,” isn't an acceptable response.

**Q. How can I stop WinXP's startup password prompt?**



**A.** If you simply press the ENTER key when faced with a pesky password prompt on startup, you might as well eliminate that exhausting step.

Just click Start and Run, type **control userpasswords2**, and click OK. Remove the check mark beside Users Must Enter A User Name And Password To Use This Computer and then click Apply and OK.

After rebooting (restarting) your computer, Windows XP will launch to the Desktop without requiring any additional exertion on your part.

**Q. Is there any way I can use the Internet to find out how much my house is worth?**

**A.** Take a look at [www.zillow.com](http://www.zillow.com). Created by Expedia wizards Rich Barton and Lloyd Frink, you simply enter an address to check the value of a home, view an aerial photograph, sales history, and more. The site's database currently contains 60 million U.S. homes, and it's updated daily. Information is all publicly accessible, so there's no funny business going on here, but because of those aerial photos, I've decided not to wear my Speedo in the backyard anymore—for which my neighbors are eternally grateful.

**Q. I've heard that cell phones emit radiation that can be damaging over time. Is there any truth to that?**

**A.** I've been using a cell phone for many years and haven't noticed any adverse effects, though Mrs. Modem tells me that the glow from my ear provides a lovely nightlight. Cell phone manufacturers are suspiciously tight-lipped about radiation, but the Quick Guide to Cell Phone Radiation Levels ([tinyurl.com/cuw7m](http://tinyurl.com/cuw7m)) spills the radioactive beans. According to its findings, the Siemens S40 phone emits the smallest amount of radiation with an SAR (specific absorption rate) of .33; Motorola's V120c (as in “Chernobyl”) emits 1.55. I use Nokia's popular “Widow Maker” model, which probably wasn't the wisest choice, now that I think about it. ■

BY MR. MODEM

Mr. Modem (Richard Sherman) is an author, syndicated columnist, radio host, and publisher. “Mr. Modem's Weekly Newsletter” provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit [www.MrModem.com](http://www.MrModem.com).



# Set Yourself Up

## Create A Web Site With Your ISP's Help

If you have an Internet connection, you probably have a free personal Web site waiting for you. Most ISPs (Internet service providers) include a complimentary single or multipage Web site with your subscription. What's more, most ISPs also provide free tools to help you create a basic Web page, without any knowledge of HTML (Hypertext Markup Language).

Why would you want a personal Web site? People use them to share photos, links, and hobbies. Some ISPs let you advertise your business, and you can also use them for school projects, sports clubs, and nonprofit groups.

Because the service is free, and the Web authoring tools are often merely serviceable (not sophisticated), don't expect a flashy site or an overly professional look. And most ISPs don't let you define or assign a special domain name to your site. Instead, you're stuck with a clunky name supplied by the ISP. But it's free and relatively easy to create a decent site that you can use to share information with friends, family, and customers.

To give you an idea of what's available, we examined the Web site services of four ISPs. For additional possibilities, see the More Personal Web Pages sidebar.

### AOL

AOL Hometown (hometown.aol.com) is AOL's personal Web page feature. To use the feature, all you need is a free AOL screen name. However, AOL members get more features and flexibility with their paid subscription to AOL's broadband or dial-up Internet service.

The concept behind AOL Hometown is to let individuals create Web pages based on their interests and hobbies. In addition, small business owners can add a site to the Business

Park community, which lets you classify your business services in categories ranging from banking to consulting to Web design. So others can locate your information, AOL Hometown includes a search-by-category function.

**Free tools.** To create a Web site on AOL Hometown, go to hometown.aol.com. The right side of the screen lists options for getting started. If you want to quickly create a page, select 1-2-3 Publish, a free tool that helps you create a one-page Web site in a few minutes. The tool starts by prompting you to select one of 90 templates to use for your Web page. Next, sign in with your AOL screen name and follow the prompts to choose background color, images, text, links, and other information. When this process is complete, you can preview and publish your page.

If you want more flexibility, images, and pages, try AOL's free Easy Designer tool. Easy Designer uses a drag-and-drop interface that lets you decide where to place text and images on your Web pages. It also offers templates if you prefer a predesigned format. Although Easy Designer requires no HTML knowledge, those who want to insert HTML can do so with the Advanced HTML Source Code Editor.

If you create multiple pages, you must use Easy Designer to manually link them to your home page. By contrast, some Web site creation tools let you define the pages you want, and the tool automatically creates and links the pages with a navigation system.

After you create and publish your Web page or site, AOL emails you the



specific address for your page. It will likely be at `members.aol.com/screen_name/index.html` or `hometown.aol.com/screen_name/myhomepage/index.html`, where *screen\_name* is your AOL screen name.

**Limitations.** Your AOL Hometown Web pages cannot use more than 20MB of storage capacity per AOL screen name. You can create as many pages as you want within the storage limit. However, you are limited to 10 registrations on the Hometown service. For example, you can create up to 10 pages and add them to different Hometown categories, or you can add the same page to as many as 10 categories.

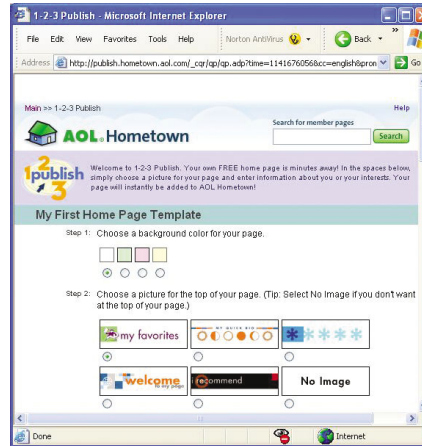
Although the service is free for nonmembers, your Web pages will display banner ads. In addition, nonmembers must use the 1-2-3 Publish or Easy Designer tools to create their pages. Members can use commercial tools, such as Microsoft FrontPage, along with AOL's FTP (File Transfer Protocol) feature to publish Web pages. AOL requires the file name extension .HTM or .HTML for the pages you publish.

**Extras.** AOL Hometown includes extra features in the Easy Designer tool. You can add a personal chat room or counter, choose from thousands of clip art files, and use the advanced HTML feature for custom HTML code.

## Comcast

Comcast cable service ([www.comcast.net](http://www.comcast.net)) is based in Philadelphia, with more than 21.5 million customers in 35 states. The company also boasts more than 7 million high-speed Internet customers. As do many Internet providers, Comcast offers residential Internet customers a Personal Web Page feature.

The service lets you create and publish Web pages using tools provided by Comcast. You can also create and publish your Personal Web Page with Microsoft FrontPage.



**AOL's Hometown feature includes 1-2-3 Publish, a basic Web authoring tool. You make selections in your browser window or select a design template to determine your site's format.**

In addition, Comcast supplies a basic HTML editor.

**Free tools.** For users new to creating Web pages, Comcast provides two authoring tools. The Personal Web Page Wizard helps you create a basic home page. The tool lets you define headings, colors, content, and other information. After the wizard prompts you for the information and format of your Web page, it publishes it to Comcast's servers.

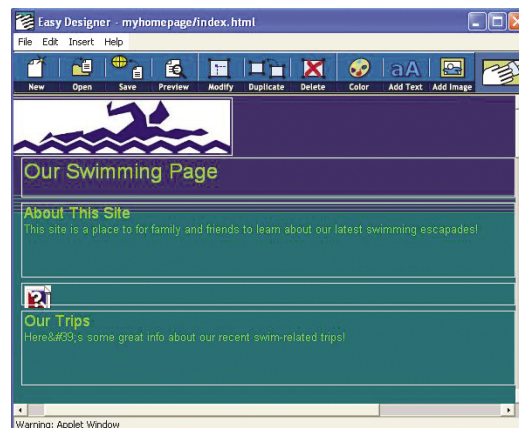
To create a more sophisticated site, you can use the free Web Site Builder application. Web Site Builder is also designed for Web authoring novices, so you don't need to know HTML to use it. The tool's Web-based, tabbed

interface walks you through the process of creating Web pages by prompting you for text, color, image, style, and other format information.

To help you manage your site, Comcast supplies file and directory (folder) utilities with Web Site Builder. The utilities include copying, deleting, and renaming the files and directories that make up your site. The directory utility also lets you password-protect directories that hold your Web site's pages. With password protection, only the visitors who know the correct username and password can access the Web pages in the protected directory.

**Limitations.** The Personal Web Page feature is available for each of the seven email accounts supplied with a Comcast high-speed Internet connection, with a limit of 25MB of space per account. When you use Microsoft FrontPage, server-based features such as server-side databases and scripting (among other features supported by FrontPage) are not available. However, Comcast does not place banner ads on your pages.

**Extras.** The Personal Web Page Wizard and Web Site Builder offer loads of extra features. You can create a newsletter on your site along with an email address list to send it. To notify others of your schedule, you can publish a monthly calendar page. You can add interactive elements for your visitors, including a polling feature, a guest book, and an email form to collect feedback. Perhaps the most convenient feature is Personal Page Name, which lets you define an easy-to-remember name for your Web



**For more design elements, AOL Hometown offers the EasyDesigner software. You don't need HTML (Hypertext Markup Language) knowledge to use the software. It features background templates and drag-and-drop features to add elements to your Web page.**

site. Otherwise, the site name is `home.comcast.net/~your_user_name`, where `your_user_name` is your Comcast account name.

## EarthLink

EarthLink ([www.earthlink.net](http://www.earthlink.net)) is a large ISP that provides dial-up and high-speed Internet access to customers across the United States. The company started in 1994 with 10 modems, and it has grown to serve more than 5 million Internet customers. As part of EarthLink's services, subscribers receive the Personal WebSpace feature.

EarthLink automatically activates Personal WebSpace when you start your Internet service. You can use it for personal or business reasons, and EarthLink provides free Web authoring tools. However, if you're comfortable with HTML and building Web pages, you can use commercial software instead.

**Free tools.** EarthLink provides subscribers with Trellix Site Builder. A Web-based, tabbed interface starts you off. The tool lets you select from a wide assortment of templates to find one that suits your site. After you establish the look and feel, you can click Edit buttons in a preview of the Web page to change text, images, and links. Trellix Site Builder includes a publishing feature, so you can easily transfer files and manage your site. Experienced users can create pages with commercial Web authoring software and transfer the files to EarthLink's Web servers with FTP software.

**Limitations.** EarthLink gives you 10MB of personal Web page space per email account, with a maximum of eight accounts. EarthLink sets the maximum transfer capacity at a generous 1GB per month. The transfer capacity refers to the total amount of

data that visitors to your site can download in one month. Unlike most other ISPs, EarthLink offers Personal WebSpace to dial-up and high-speed customers.

**Extras.** Trellix Site Builder comes with numerous add-on features such as the weather, search engines, online forms, tables, audio, and video. And EarthLink recently added blogs (Web logs) to the available site features. In addition, customers can try the Urchin Lite reporting system for statistics about activity on their WebSpace site, including number of hits, visitors, pages accessed, and bytes transferred.



This Web page was created with the free Comcast ([www.comcast.net](http://www.comcast.net)) Web Site Builder tool.

## Road Runner

Road Runner ([www.rr.com](http://www.rr.com)) is a high-speed Internet service provided primarily by Time Warner Cable and Bright House Communications. It is available in numerous cities in more than 25 states. Customers of the Road Runner service receive a free Personal Home Page, but they need some Web-creation experience to use it.

Customers can activate their Personal Home Page by accessing their member page at `home-admin.rr.com`. During the activation process, you can select as many as three categories for listing your site on the Road Runner member page.

**Free tools.** Road Runner does not provide free Web authoring tools. You can use commercial tools such as Microsoft FrontPage, Adobe GoLive, or Macromedia Dreamweaver or a basic HTML text editor such as NoteTab ([www.notetab.com](http://www.notetab.com)) to create your Web pages. Road Runner does offer advice for FTP software to help you copy your files to the Road Runner Web server.

**Limitations.** Personal Web Pages cannot be used for commercial or business purposes. Road Runner members receive 5MB of storage and 250MB per month transfer capacity. The limit makes it difficult to distribute large files to numerous site visitors, and Road Runner prohibits distribution of streaming audio and video. And although you can use commercial Web authoring tools to create your site, Road Runner does not support advanced code such as server-side databases or CGI (Common Gateway Interface) scripts.

**Extras.** Because Road Runner does not offer Web authoring tools, you won't get any extra features for your Personal Web Page. For a fee, business owners can subscribe to services including Web hosting and domain name registration. The Web hosting service lets you opt for advanced HTML features.

## Free For The Taking

If you've thought about creating a Web site, check out your ISP and find out what it provides. Remember that *most* ISPs, not just the big names we've discussed here, will provide free Web site space. Even if you don't think you need a Web site, take a few minutes to try out any free Web authoring tools. What you create might surprise you! ■

BY CARMEN CARMACK



# WiMAX vs. Satellite Internet

## What Are They & Which Is Right For You?

**T**he last mile conundrum has dogged wired high-speed Internet providers and potential subscribers for years. The expense of laying wires and cable in cities and suburbs is partially offset by the numbers of potential subscribers in each square mile. In predominantly rural areas, however, potential subscribers are geographically dispersed, so it's difficult for companies to recover costs of setting up infrastructure with the relatively few potential subscribers. Consequently, there are expanses of rural America that have no Internet access at all, much less access to high-speed Internet connections, such as DSL (Digital Subscriber Line) or cable broadband.

According to a Pew Internet & American Life Project report released in February 2006, 24% of rural Americans have high-speed Internet connections, whereas 39% of urban and suburban households have high-speed Internet connections. Of those questioned, 29% of rural adults use dial-up connections compared to 21% of urban and suburban adults, and a

similar disparity exists among rural and urban/suburban non-Internet users: 38% of the rural respondents do not use the Internet at all vs. 30% of the urban/suburban dwellers.

Although we can't ascertain by looking at those figures how many of the rural respondents have no access to the Internet or how many would switch from dial-up to high-speed access if it were available, we can't help but wonder. One thing is clear, though: Despite higher numbers for urban/suburban vs. rural dwellers, roughly 61% of nonrural Americans lack high-speed Internet connections, and some 76% of people living in rural areas also go without.

Although there are many possible ways to bridge these service gaps, we'll be discussing two of them here: a new wireless standard called WiMAX and satellite Internet connections. People tend to confuse these two technologies, but they're really very different from one another.

### Theoretical Terrestrial Option

The currently popular wireless standard, Wi-Fi (802.11), is impractical for rural areas because coverage maxes out at around 300 feet. That's perfect for someone toting a notebook PC around his home or the neighborhood Starbucks, but it's impractical for those large, sparsely populated rural areas mentioned earlier. WiMAX (Worldwide Interoperability for Microwave Access; which is an IEEE wireless standard encompassing the 802.16x family) is a new and evolving wireless standard that's been

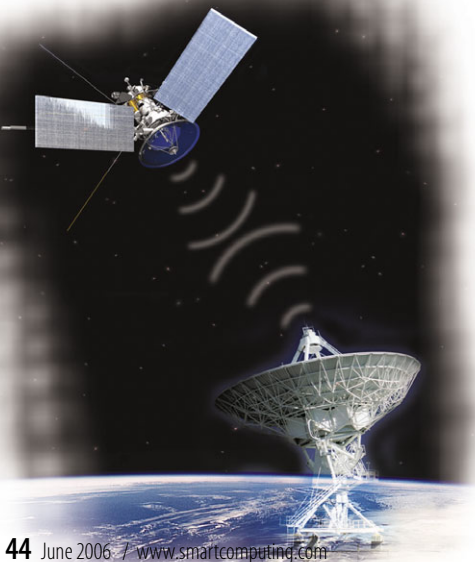
touted by industry heavy hitters such as Intel and Motorola as a solution to the problem of the final mile.

**MAN.** WiMAX is a standard for MANs (metropolitan-area network), as opposed to the LANs (local-area networks) served by the more well-known Wi-Fi. The difference is distance and area of coverage: WiMAX can theoretically broadcast a high-speed signal 30 miles in every direction for fixed stations and 3 to 10 miles for mobile stations.

According to the WiMAX forum ([www.wimaxforum.org](http://www.wimaxforum.org)), the group developing the standard, "WiMAX will provide fixed, nomadic, portable, and, eventually, mobile wireless broadband connectivity without the need for direct line-of-sight to a base station." Interestingly, the developers don't see WiMAX as a replacement for Wi-Fi but, rather, a complementary standard that "extends the reach and provides a Wi-Fi-like user experience on a larger geographic scale." Like Wi-Fi, WiMAX users will be able to send and receive data files, voice, music, and streaming video, as well as participate in multiplayer online gaming.

**Scheduling MAC.** WiMAX offers significant improvements over Wi-Fi, and among the more important is the specification making WiMAX a system that uses a scheduling MAC (Media Access Control; the link between the network and the device you're using to access the network). With a scheduling MAC, your device competes only once for access to the network, and a specific amount of bandwidth is allocated solely for your device's use. The quality and speed of that signal will never vary as long as you're connected.

Wi-Fi uses contention access, so your device competes with all other devices on the network for attention. Data sent and requested by devices closer to the network AP (access point) constantly interrupt and even crowd out data sent and received by devices farther away from the AP. Also, the more devices seeking access to the network, the lower the quality of the signal.



## Products & Services

### LINE OF SIGHT

StarBand's line of sight tool gives approximate information as to the location of our satellite network and whether you have proper line of sight to one of them.

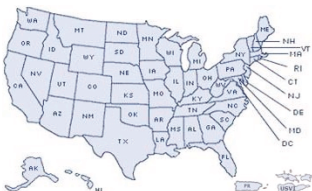
**How can I determine if my location is well-suited for StarBand?**  
It's Easy! Just follow these simple steps to determine if your location is right for StarBand service.

**Step 1:** Determine what direction your antenna needs to face.

**Step 2:** Determine if the line of sight in that direction is unobstructed.

#### 1. Determining Antenna Direction

**Click on your state** in the map below. A compass will appear, showing you the direction that your antenna should face for your location.



**Click a state from the Line Of Sight map to see where you'd place a dish in order to receive high-speed Internet access via StarBand.**

Speakeasy [www.speakeasy.net], offers speeds of 6Mbps over a DSL line for which you do *not* have to have existing phone service.)

Intel has delayed the launch of its WiMAX-capable chip until 2007 or thereafter, and that makes it tough for manufacturers that incorporate the chip in their hardware to proceed, as well.

Samsung and other manufacturers have released chips and hardware, but it's all compliant with current WiMAX standards, and until others, including the mobile standard, are adopted, there's no guarantee that existing WiMAX-compatible hardware will work chips and hardware based on the final iterations of the standard.

WiMAX is a promising new standard, but our long wait is not over yet.

## Something's Out There

If you don't want to wait another year or two, and you can't get high-speed Internet access through your phone or cable company, take a look at satellite Internet access. Look carefully, though, because many satellite TV providers, including DISH Network and DirecTV, offer Internet access through partnerships with local phone companies, so you have to have a phone line that supports DSL.

Nationwide provider StarBand (www.starband.com) provides high-speed, always-on, two-way Internet access via a satellite dish. Make sure you're serious about the service: In addition to making a multiyear contractual commitment, you also have to pay a one-time fee for some pricey hardware, as well as a monthly fee.

Hardware includes equipment to transmit and receive data over the Internet, a satellite modem, and an

installation kit, and you have to pay for its installation, which has to be done by a StarBand-certified technician. The FCC regulates all satellite activity, so it's illegal to set up your own system. At press time, equipment costs ranged from \$399.99 to \$599.99, depending on the length of the contract you sign and the modem you opt for, and monthly subscription prices run \$69.99 for the first contract year, \$59.99 for the second, and \$49.99 for the third.

You have a choice of modems: the StarBand 360 Starter Residential or the StarBand 481 Residential. The former downloads data up to 250Kbps (kilobits per second) and uploads data at speeds similar to dial-up (56Kbps at best). The latter features download speeds up to 500Kbps, but a TurboMode sends data upstream at 100Kbps. The 481 is compatible with operating systems that support TCP/IP (Transmission Control Protocol/Internet Protocol), including Windows 98/98SE/Me/2000 Pro/XP. With the 481, you also get 10 free Webmail addresses and 10MB of personal space for a Web page. The 360 is compatible with the Windows 98/98SE/Me/2000/XP OSes, and you get one Webmail address and 5MB of space.

As with satellite TV, satellite Internet requires direct line-of-sight, meaning you have to have a clear view of the southern sky. Also, as with satellite TV reception, heavy clouds or storms can cause interference or block the signals entirely.

## Not Much Choice

There are problems with both options, including the fact that WiMAX has yet to be widely deployed in the United States. High-speed satellite Internet access is still somewhat pricey, and you'll have many hundreds of feet of wire dropping from your dish to various points in your house.

Weigh your options; hopefully, a new wireless standard that can bridge great distances will roll out soon. ■

BY KATHRYN DOLAN

This means if you access the Internet with a Wi-Fi router hooked up to your local cable TV company's broadband service, for instance, and the company also offers VoIP (Voice over Internet Protocol) phone service, the more people who are online, watching TV, and talking on the phone in your access area, the weaker the signal and the slower your connection speed. And speaking of speeds, Wi-Fi's theoretical maximum speed is 11Mbps (megabits per second), while WiMAX is designed to handle speeds between 75Mbps and a 268Mbps.

## Deployment Problems

Although hundreds of big-name manufacturers are onboard with the WiMAX standard, there are a few problems with its large-scale deployment. WiMAX is capable of taking advantage of the licensed frequencies between 2GHz and 11GHz and the unlicensed frequencies up to 66GHz. The FCC, however, is concerned about use of the spectrum without licenses because the National Association of Broadcasters has said wireless broadband using the same bands as TV signals will cause interference for television viewers.

Other than experimental sites around the world and a company in Seattle, Wash., you'll find few WiMAX service providers and products. (Incidentally, the Seattle company,

## Enhance Your Time Online

### A Helpful Library Elf

**Problem:** I'm always returning library books late. How can I avoid overdue charges?

**Solution:** Managing library accounts just got a lot easier. Check out Elf ([www.libraryelf.com](http://www.libraryelf.com)), which allows you to keep track of what's due, overdue, and ready for pickup at one or more libraries. All you need is a library card and a free account on Elf, and you can get reminders sent by email or RSS (Really Simple Syndication). Too bad it can't help with late fees from the video rental store.

### Real Estate Researcher

**Problem:** I'm still trying to figure out if the real estate boom is over. How can I find out the value of my house without going through an expensive appraisal process?

**Solution:** Whether or not the housing market has cooled down, one thing that is super hot is the new site, Zillow.com ([www.zillow.com](http://www.zillow.com)). In beta (as of this writing), Zillow offers

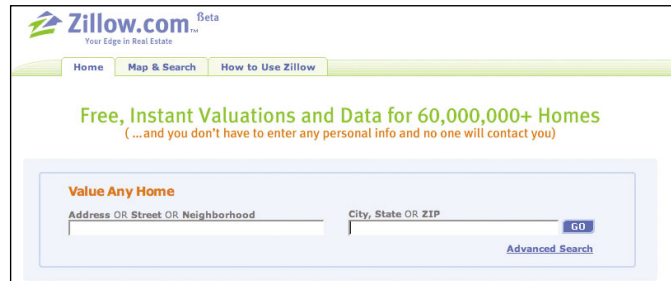
free, instant property valuations for more than 60 million homes. It's as easy as entering an address, and you'll find out what your home could go for.

Accurate? Some reports suggest it's not very on-the-mark, while Zillow claims to be within 10% of the selling price of homes. Best to use it as a point of reference in a larger search . . . or as a fun, frivolous, gossip-inspiring diversion. Mac users, beware: For you, Zillow only runs on Firefox 1.5. (However, Window users can also use Internet Explorer 5.5 or 6.)

### Stock Photography For The Masses

**Problem:** I put together a newsletter for friends and family and would like to spruce it up with some better pictures. But I'd rather not dump a lot of cash into those expensive clip art or stock photo collections.

**Solution:** While not free, iStockphoto ([istockphoto.com](http://istockphoto.com)) may very well be the best value on the Web. A royalty-free image from



What's your house worth? Zillow.com will tell you instantly.

Corbis ([www.corbis.com](http://www.corbis.com)) can cost \$60 for a small 72dpi (dots per inch) image. Compare that to iStockphoto's price of \$1. Yep, just one buck. For people creating personal Web sites or small office newsletters, you can't go wrong with iStockphoto's 660,000-plus royalty-free pics.

### Pandora's Box Of Online Music

**Problem:** I have tried to listen to Internet radio stations, but I have the same problem I have with regular radio stations: They aren't tailored closely enough to my taste in music.

**Solution:** With all the debate about downloading music legally and illegally, it's refreshing to see a free online music option like Pandora ([pandora.com](http://pandora.com)). Pandora is a streaming radio station that learns your tastes by letting you rate the music it plays. Therefore, the more you listen to it, the smarter it gets. Registering is free (and allows the system to

remember your preferences and selections), and it also offers a subscription that removes the ads.

### eBay Insider

**Problem:** I enjoy eBay, but I wish I had some more info about the value of certain things before I set a reserve or clicked Buy Now.

**Solution:** Experienced eBayers know that it's easy to look up the prices on completed items (both ones that sold and didn't sell) to get a feel for what the market can currently bear. Those folks looking for data that's a little more in depth might want to plunk down a couple bucks for eBay's new Marketplace Research ([pages.ebay.com/marketplace\\_research](http://pages.ebay.com/marketplace_research)). This service, which starts at \$2.99 for a two-day pass, allows you to "gather critical intelligence on buying and selling trends in the eBay marketplace." Such detailed charts and graphs might be too much for most people, but it's bound to be a welcome tool for high-volume buyers and sellers.

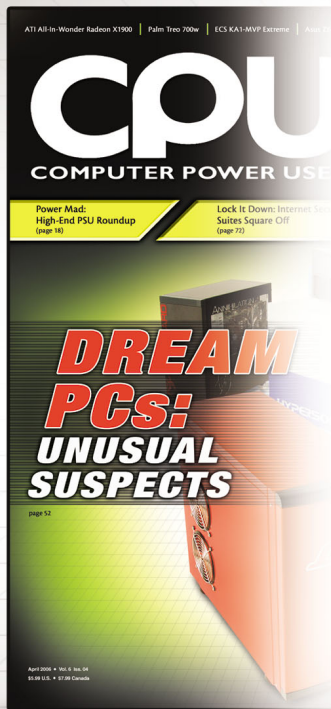


Pandora's free service lets you customize up to 100 personal radio stations.



# Hardware Without The Plug!

When you're unplugged, pick up an issue of *CPU* and plug into the world of high-tech computing. Each month *CPU* brings you a functional mix of hardware reviews, information on modding, the latest and greatest software, and the opinions of some of the industry's leading columnists.



Pick up the latest issue of *CPU* on newsstands now!  
[www.computerpoweruser.com](http://www.computerpoweruser.com)

# User Groups

## APCUG

[www.apcug.net](http://www.apcug.net)

The APCUG (Association Of Personal Computer User Groups) isn't a traditional personal computer user group as the other groups in this article are. For one thing, the APCUG's members aren't individual computer users; the members are the groups themselves. The APCUG's goal is "to facilitate communication among computer user groups, the community, and the technology industry." If your club is a member, its newsletter editor can add the APCUG's computer-related articles to your group's Web site and newsletter. The association also offers access to vendors, who can provide presentations (and sometimes door prizes). If you're a user group officer or president and your club isn't already a member of the association, check out the What We Offer section.

## CKCS

[www.ckcs.org](http://www.ckcs.org)

Whether you're looking for PC or Mac tips, you'll find tons of online goodies at the Central Kentucky Computer Society's sophisticated Web site. Many of the group's members use PCs, so the site relegates Apple fans to its Mac Corner, but what a corner it is. You'll find links to Mac magazines, support sites, product pages, and Mac-oriented blogs. Luckily, the Favorites and Favorite Mac Articles will help you find the best material. Joe Isaac's Top Fifty Tips For Windows 98/Me/XP will free you from nasty computer problems and teach you useful tricks.

## CCOKC

[www.ccokc.org](http://www.ccokc.org)

This site's main page keeps visitors up-to-date on club events and has



detailed explanations of the presentations Computer Club Of Oklahoma City members can expect to enjoy at upcoming meetings. If you're a newsletter fan, you can subscribe to the site's eMonitor email newsletter or click eMonitor in the navigation bar to read it right away. The site also offers several monthly columns, including John Brewer's Legal Bytes, which discusses legal issues relevant to computer users.

## FCC

[fcconline.hmcltd.net](http://fcconline.hmcltd.net)

The Firelands Computer Club's home page is one of the more colorful (and easy to navigate) user group sites on the 'Net. The centerpiece of the home page is a blog area that has short articles about (computer) virus outbreaks, updates for popular software, and club news. By default, the page section displays only blog entry titles, which means you can quickly scan the page to find an article. A Read More link opens the full entry without taking you to a new page. We like the entry title color-coding system as it helps you quickly spot info about critical updates for Windows 98/Me/2000/XP.

## FPCUG

[www.fpcug.org](http://www.fpcug.org)

The Fredericksburg Personal Computer Users Group is a small group, but you wouldn't know it to see the group's award-winning Web site. The

right column on the main page offers basic information about the next general and SIG (special interest group) meetings, but you'll find better descriptions of the group's activities in the blog that eats up most of the main page. The column on the left has links to additional news and the group's Electronically Speaking newsletter. Run your mouse pointer over any link in that column to see a description of the linked page.

## KIPCUG

[www.kipcug.org](http://www.kipcug.org)

The Kentucky-Indiana Personal Computer Users Group's Web site took second place in the Medium Sized Groups category of APCUG's 2005 Web site contest. The site boasts a bright calendar, complete with icons and links to information about the group's many SIGs. The online newsletter (in PDF [Portable Document Format] file) offers pages of software and hardware reviews, as well as tips from experts within the club on such topics as hard drives and processors. The club also posts pictures of presenters from its meetings on the Web site. (And yes, *Smart Computing* is in there.)

## TPCUG

[www.tpcug.org](http://www.tpcug.org)

Tampa PC Users Group's lucky members can read this Web site's newsletters in HTML (Hypertext Markup Language) or the downloadable PDF format (which lets users read while offline). The TPCUG also has a special version of the site for readers who want to browse its pages via their Pocket PC PDAs (personal digital assistants). The site has plenty of free articles, some of which date back to 1996. If you have a high-speed Internet connection, you'll enjoy the site's slideshow, which will introduce you to the group. If you're in the mood to see some new sites, check out the Random Member's Web Site link at the bottom of the main page.



# That's News To You

Finding the appropriate Usenet discussion group to match your interests can be a monumental task. So each month, we scour tens of thousands of newsgroups and highlight ones that delve into popular topics. If your ISP (Internet service provider) doesn't carry these groups, ask it to add the groups to its list. This month, we check out computer user groups.

## comp.cad.autocad

Members here ask and answer questions about the popular Autodesk AutoCAD software. If you're in a CAD (computer-aided design) SIG, add this group to your list.

.....

## comp.org.user-groups.meetings

Several groups list their meeting schedules and directions here. If you've recently moved and want to find a user group in your area, be sure to check out this group.

.....

## comp.os.ms-windows.misc

Having trouble with your OS (operating system)? Chances are, you're not the first to experience the problem. If you post a question here, you'll find that these members collectively offer a wealth of expertise.

## Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month we feature highlights from our pickings. This month we help you spice up your group's Web site and newsletter.

### Scrollbar Styler 1.0

[www.tucows.com/preview/220462](http://www.tucows.com/preview/220462)

As Web surfers, we run into **scrollbars** (the bars that let you scroll up and down, or left and right, on a Web page) on almost every Web page we view. If you'd like to get the attention of visitors to your site, spice up your scrollbar with some unusual sizes, styles, and colors. The Scrollbar Styler lets you create new scrollbars without entering any **HTML** (Hypertext Markup Language; the code that makes up your Web site).

To change the scrollbar's base color, for example, you'll click the Settings tab and then click the drop-down menu in the ScrollbarFaceColor tab. Select Pick Color and then click the Palette button, which opens the Color Picker's palette of Web-friendly colors. Selecting a color is as simple as clicking it. If you want to blend colors into each other, press the SHIFT key and then double-click the colors you like.

Next, click the Preview tab, which shows a sample scrollbar, as well as the code. If you like the scrollbar, click the Copy To Clipboard button (which copies all of the code to your clipboard, as if you had highlighted and copied it yourself). You can now paste the code into your HTML editor.

The program only changes Web page scrollbar colors. You'll need a separate program to build the rest of your Web site. But it's a handy little tool, and it has a great price: free. Scrollbar Styler supports Windows 98/NT/2000/Me/XP.

### Art Explosion Clip Art

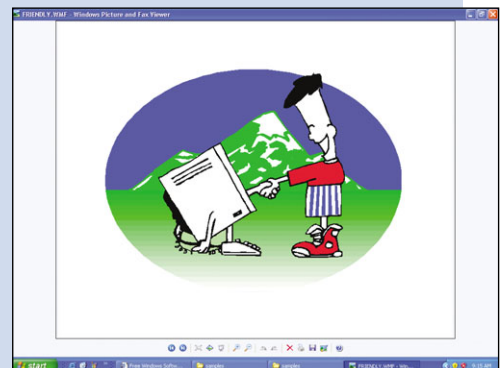
[www.novadevelopment.com](http://www.novadevelopment.com)

If you're looking for something that will add a little flair to your user group's Web site or newsletter, consider tossing in a few images. Clip art breaks up the text and helps readers quickly spot sections or articles in which they're interested. If you're looking for some free clip art that won't transfer any viruses or other unwanted software to your computer, check out Nova Development's Art Explosion Clip Art Sampler, which offers

100 clip art files. The

software publisher also offers several smaller samplers that have thematic pictures.

To download the clip art, visit the site and then click the Downloads tab at the top of the page. Click Free Windows Downloads and then enter your name and email address in the site's form. Once you submit the form, you can download some or all of the sample packages. ■



Nova Development's free clip art adds personality to your user group's newsletter. Nova Development also offers Art Explosion Publisher Pro, which lets you create documents.







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Put Your Backup Plan Into Action  
& Restore Your Data

# Backup Basics

**It's Time To Protect Yourself & Your Files**

The days of storing photo negatives, stacks of videotapes, and multiple copies of important documents are long past. Now that pretty much everything is digital, making and storing backups is easier and less expensive than ever—but only if you know the ropes.

There are many types of backup software and hardware to consider that can help you create and manage your backups. As long as you know a little bit about the way they work and a little bit about your computer, these components will help you make the type of backups that suit your needs.

### Select Your Software

Many programs include a tool that lets users create backup files, and some

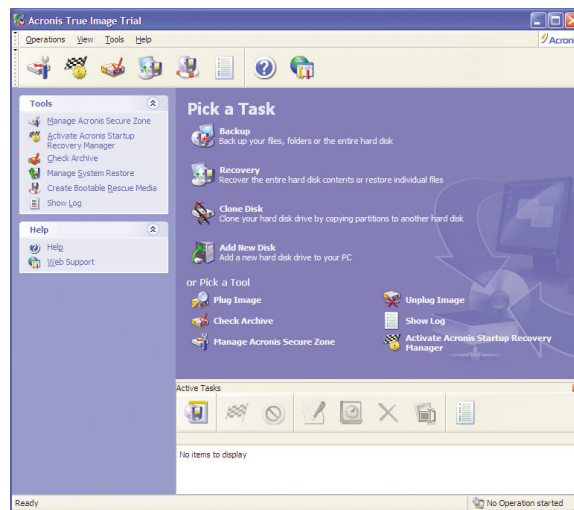
OSes (operating systems) come with a backup utility, but these tools and utilities are nothing compared to third-party programs such as Genie Backup Manager Home (\$49.95; [www.genie-soft.com](http://www.genie-soft.com)), Acronis True Image 9.0 Home (\$49.99; [www.acronis.com](http://www.acronis.com)), Symantec's Norton Ghost 10.0 (\$69.99; [www.symantec.com](http://www.symantec.com)), and others.

Some backup applications create a copy of your entire hard drive; some are designed to only back up the files and folders you designate; and some programs do both. Here, we'll cover the type of backup software that lets you determine what you want to back up, but you'll also find information about drive-imaging software in our "Mirror Backups" sidebar on page 52.

Good backup software lets you schedule recurring backups, so the software automatically backs up data at the time you specify; better software delays this process if it detects you are working on the computer, so it doesn't slow your computer to a crawl just when you need maximum performance.

Of the packages that automatically create backups, look for those that support the various types of backups: a **full backup** (backs up all files), an **incremental backup** (backs up any new and changed files since the last full backup), or a **differential backup** (backs up any new and changed files since the last full or incremental backup). Being able to choose which type of backup you want not only saves a lot of space, it also saves a lot of time.

Also, make sure that the software doesn't use a proprietary format to create the backup files. When



Drive-imaging programs, such as Acronis True Image, are designed to make copies of everything stored on a hard drive.

this is the case, only the backup software you used to create the backup can be used to access the backup files. This restriction is a major hassle if you plan to access the backup files using multiple computers or are afraid you won't have the backup software installed in the future when you need to open the backup files.

Instead, look for backup software that saves files in their native format, which will allow you to simply drag and drop files from the backup location to another folder on your computer. Another option is to use software that creates backups as EXE (executable) files, which will automatically open when you run them on any computer.

In addition, the best backup packages can back up far more than just your files and folders; they also can copy certain parts of Windows so that you can restore everything—from your Desktop icons to the entire OS—should disaster strike.

Another thing to consider while shopping is the need to find software that can make backups directly to the type of backup media you want to use. We'll discuss the differences among various types of media in the following section.



## Mirror Backups

**B**acking up individual files or folders is good, but sometimes you want to go all out and back up your entire hard drive. In these situations you need drive-imaging software, such as Acronis True Image 9.0 Home (\$49.99; [www.acronis.com](http://www.acronis.com)) or Symantec's Norton Ghost 10.0 (\$69.99; [www.symantec.com](http://www.symantec.com)), with the ability to copy critical system files even when Windows is running, which is something

typical backup software can't do.

Drive-imaging software is very handy when you want to do something such as upgrade your existing hard drive to a higher-capacity model. Normally, this type of project would require formatting the new drive, re-installing Windows and all of your applications, and manually transferring all of your files to the new drive. Drive-imaging software lets you make an exact copy of the existing

drive to the new drive, so you just need to install the new drive in the old drive's place, and everything boots up as normal. In addition, drive-imaging software is useful for restoring your computer after a hard drive disaster. It may not be completely up-to-date, but restoring the system from a backup in this manner is much better than starting from scratch. (For more information, see "Be A Disaster Master" on page 63.) ■

## Safety 'Net

**B**roadband Internet access is reaching an increasing number of homes and offering faster Internet access speeds at lower prices than ever before, and several companies are taking advantage of this fact to offer off-site data backup services. These services let you transfer your backup data over

the Internet and store it on the hard drives of the company offering the service.

This offers several advantages over storing your data at home. The best off-site services encrypt your data so that even people who work at the company can't access it, and they have redundancy mechanisms

in place so that if a hard drive fails, your data is always mirrored on one or more additional hard drives, making it nearly impossible to lose. You also can get to your data from any computer that has Internet access or make backups on the road, both of which are great for laptop users. ■

## Media Types

Even though Windows XP's own Backup program can only save backups directly to a hard drive, most third-party apps can save backups to any type of storage device.

Rewriteable and recordable CDs and DVDs can store data very economically, plus they make it easy for users to transfer backups from one PC to another, as long as the other computer has an optical drive that can read the discs. In comparison,

recordable discs are much less expensive than rewriteable discs, but the information stored on recordable discs is permanently burned onto them, making it impossible for you to ever edit or rewrite that information. As long as space is available on recordable discs and the recording session isn't considered "closed" by the burning software, you can still add more data to them, but any files already on the discs are set in stone. Because of these factors, recordable discs are good for

archiving data that you want to store for a very long time and don't plan to make any changes to, such as digital photos or music files.

Alternatively, rewriteable discs make it possible for you to access the data stored on them just as you would access data stored on a hard drive. As such, you're able to overwrite data as necessary and write files to the disc multiple times. Rewriteable discs are more expensive than recordable discs and don't store quite as much data because of the special formatting they require, but those tradeoffs are generally worth the extra flexibility.

An extra hard drive is another possibility you should consider when choosing backup media. Most computers have enough room to accommodate an additional internal hard drive, which is an extremely economical way to store hundreds of gigabytes of data. Just make sure any drive you purchase uses the same interface your computer's motherboard supports before making a purchase.

With a little bit of extra cash, you can purchase an external drive that attaches to the computer using a USB or a FireWire interface. When comparing external drives, you should only consider those that use USB 2.0 or FireWire because they are many times faster than the USB 1.0 interface used by some of the cheapest drives.

An external hard drive that uses a NAS (network-attached storage) interface is more expensive, but it's an incredibly convenient option for those who have a home network. These drives connect directly to the network instead of to one computer, letting any computer or other device that's attached to the network access the drive. This is nice because everyone in the house can make backups without having to rely on a particular computer, plus most NAS storage devices can be accessed from any computer with Internet access, so you can even back





up your vacation photos while you're still on vacation.

### Compression & Encryption

When you see such figures as 800MB printed on a CD case or 4.5GB printed on a DVD case or 400GB printed on a hard drive package, those numbers tell you the amount of raw data the discs/drives can store.

In reality, most backup programs use compression technology to let you store up to 10 times that amount of data in the same amount of space. This extra storage comes with a few drawbacks, though. Compressing and decompressing data requires a lot of computer resources, so it takes a long time to compress large or numerous files. It also takes longer to access data stored in a compressed file than it takes to access data in its native format, so compression is best used

## Data Conversion Chart

Comparing storage capacities and pricing among backup media is tough unless you know your megabits from your megabytes. Here's a basic breakdown:

Terabyte	= 1,000 Gigabytes
Gigabyte	= 1,000 Megabytes
Megabyte	= 1,000 Kilobytes
Megabit	= 1,000 Kilobits
Kilobyte	= 1,000 Bytes
Kilobit	= 1,000 Bits
Byte	= 8 Bits



Plexor's 400GB PX-EH40L-NA hard drive uses a NAS (network-attached storage) interface that lets any computer on your home network access it.

for backups you plan to store for a long time.

Encryption is another feature supported by most backup software that encodes your data so that only someone with the proper password can access the information. As with compression, encrypting and decrypting data requires a lot of processing power; even so, we still recommend using encryption if you're backing up important or personal information (such as emails or financial data) that you'd rather keep private. Just remember that if you're storing the data for a long time, there's an increased chance that you'll forget or lose the required password.

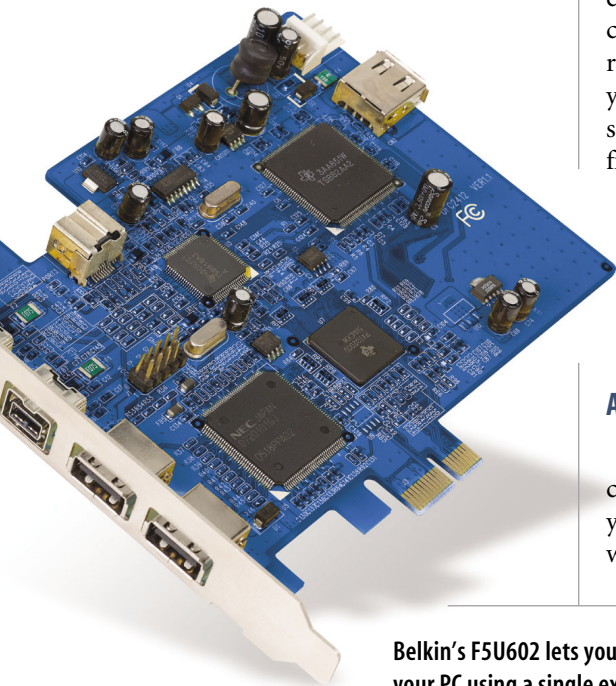
### A Solution To Every Problem

So which backup solution is the best choice for you? That depends on how you use your computer. If you work with a lot of digital photos and video,

you're better off using an additional hard drive as workspace for editing that content and then archiving your original and edited files on inexpensive discs that are easy to label.

Telecommuters should consider using off-site backup services that let them create and access backups from both home and the office, without requiring them to lug around a lot of hardware. If you plan to frequently access your backups, use an external hard drive, which lets you open files just as quickly as you are able to from your primary hard drive and offers plenty of storage space for storing files, eliminating the need for compression.

Regardless of the type of backup software and hardware you choose, the other articles in this featured section will discuss how to make backups and how to restore your files when necessary. With prices so low and storage capacities so huge, it's never been easier or cheaper to buy the peace of mind that comes with backing up your precious data. ■



Belkin's F5U602 lets you add both USB 2.0 and FireWire ports to your PC using a single expansion card.

BY TRACY BAKER



# System Restore

## A Rewind Button For Your PC

**U**h-oh. You installed a new device, driver, or program, and now your PC is running poorly. You've tried various fixes, such as Add Or Remove Programs or Device Driver Rollback in Windows XP, but you've still come to a dead-end. It's time to turn around and use a tool that Microsoft introduced when it released Windows Me: System Restore.

System Restore lets you restore your computer to a previous state—that is, a state that existed before you began encountering your current problem. Run into trouble, and you can revert to an earlier state without losing personal files (recent or otherwise), including word-processing documents, email messages, and bookmarked Web pages.

As you use your PC, Windows monitors changes to your system and application-related files and regularly creates what it refers to as restore points. To do this, it monitors all partitions and drives, as well as driver and application installations. During every 24 hours (in WinXP) or 10 hours (in WinMe) of computer use or 24 hours of calendar time, System Restore automatically creates a restore point, even if you haven't made any system changes. For example, if you shut down your computer and don't turn it on for three days, System Restore will create a restore point the next time you boot up.

In addition, each time you install a program from a CD or other media, the tool creates a restore point. This also occurs when you install an app via downloaded software. So, even if you're using WinXP's Automatic Updates feature, System Restore will create a restore point once the updates begin the installation process. Plus, you can create your own restore points using the System Restore Wizard.

Over time, you can see that the number of restore points could add up, especially if you use your PC frequently. Rather than eat up hard drive space, System Restore stores only between one to three weeks of restore points. How far back you can go to a restore point depends on three factors: how much you use your PC, how large your hard drive is, and how much drive space your PC has allotted to store System Restore data. As System Restore reaches its limits on creating restore points, the tool drops the earlier restore points. Thus, if you plan to use System Restore, you'll need to do so relatively quickly after you notice a problem.

*(NOTE: If your Windows drive has fewer than 200MB of free space, WinMe and WinXP will disable System Restore by default.)*

As you use System Restore, the wizard walks you through selecting a restore point on its calendar. Simply select a date, and the tool restores your PC to that earlier time period, with one major exception: System Restore doesn't touch your My Documents folder, and it doesn't alter any files that

use such common file extensions as .DOC or .XLS.

### A Few Caveats

Although it's a useful tool, System Restore is far from being a complete solution. Because System Restore is limited to a maximum 12% of hard drive space, it may purge useful restore points before you have a chance to use them. In addition, it will often render programs useless if they were installed after the restore point; so even though the programs' data files aren't deleted, you may need to uninstall and reinstall any such programs to make it possible to access these data files. Because of this, we recommend that you run Add Or Remove Programs to take care of potential problems before you use System Restore.

And, perhaps most importantly, System Restore isn't a *true* backup system. Yes, it can back up copies of the Registry, but that doesn't mean you can count on it to back up other things. For instance, it won't serve as a backup for earlier versions of Microsoft Word files you accidentally edited or changed. System Restore works best when it's part of a complete restoration system, along with a dedicated backup application and such Windows tools as Add Or Remove Programs. By using a combination of these tools, you can get your system up and running again much more quickly. ■

BY HEIDI V. ANDERSON





# A Backup Medium With High Results

## Top Candidates For Convenience, Capacity & Cost

**I**deally, backup mediums should be easy to use so they won't discourage users. They should be fast, high-capacity, inexpensive per gigabyte, and trustworthy. They also should be easy to move so users store them in safes or other locations to guard against viruses, theft, and disasters such as fires and floods. That's a tall order, but you can cover most of these bases with the right device. Here's today's best options.

### External Hard Drives

The best backup medium for most home and small-business users is an external hard drive, which is a stand-alone drive enclosed

in a shell that connects to your PC through a USB 2.0, FireWire, or eSATA (external Serial Advanced Technology Attachment) cable. These drives are big and fast, and you can configure most of them to perform automatic backups without your help.

An external drive is more effective at protecting your data than an internal hard drive is. For one thing, you can disconnect an external drive and store it offsite. Also, with the backup drive disconnected, any virus or malware that infects your computer won't be able to contaminate your backups.

You can buy external drives that bundle with backup software, such as Maxtor's OneTouch II External 200GB (\$145; [www.maxtor.com](http://www.maxtor.com)) or Western Digital's External 80GB (\$83; [www.westerndigital.com](http://www.westerndigital.com)). Like many competing drives, "OneTouch" Maxtor lets you start a backup by pushing a button.

Another type of external drive is a NAS (**network-attached storage**; an appliance containing one or more hard drives). A NAS connects to your network router, so you can let some or all of the PCs on your network access it. It takes more know-how to set up a NAS than an external drive, but they operate on the same principles for the purpose of this article. Of course, a network also lets you back up files from one PC's hard drive to another's hard drive.

You can build your own external drive or NAS if you already have an extra hard drive of suitable size. Enclosure kits, such as Penguin Gear's PG-380U2 (\$28.99; [www.penguin-gear.com](http://www.penguin-gear.com)), cost about \$25 (and up) online. NAS kits, such as NETGEAR's SC101 (\$109.99; [www.netgear.com](http://www.netgear.com)), start at \$99.99. Most kits are for ATA/EIDE (Enhanced Integrated Drive Electronics) drives, but a few handle SATA drives instead.

Removable drive carriage kits let you mount a hard drive in a removable tray, which slides into a dock you install in a 5.25-inch drive bay in the front of your computer. Once you've backed up your files, you can pull the drive out of its dock (following its instructions) and store it elsewhere. One example is StarTech.com's SNT127A IDE Removable Drive Drawer Mobile Rack (\$17; [www.startech.com](http://www.startech.com)).

Typical 3.5-inch desktop internal drives are fragile and may not survive a drop from a desk onto a hard floor. However, portable 2.5-inch external drives are much more rugged, yet still spacious enough for backup duty. The trade-off is that smaller drives cost more per gigabyte.

### Internal Hard Drives

Many internal hard drives are faster than external drives, but they do have one flaw: They're always on and connected to your PC, so a virus or power surge could affect them. The same is true of a Type



NETGEAR's Storage Central SC101 is a NAS (network-attached storage) kit that offers a very flexible way to turn hard drives you already own into backup storage for everyone on your network.



1 RAID (redundant array of independent disks), in which a second hard drive automatically saves a copy of everything on your PC's original drive as an instantaneous backup.

On the other hand, Dell ([www.dell.com](http://www.dell.com)) uses a second internal hard drive in the DataSafe backup feature sold as part of some of its PCs. Because DataSafe combines RAID 1 with Symantec's Norton Ghost ([www.symantec.com](http://www.symantec.com)) software in a unique way, it drastically reduces the backup drive's vulnerability to malware. Of course, theft and disasters are still concerns.

## DVD & CD Drives

Today's DVD±R/RW drives can record 4.7GB to DVD+R (recordable once), DVD-R, DVD+RW (rewriteable), and DVD-RW media, as well as 8.5GB to DL (dual/double-layer) DVD±R media. DVD burners, in a manner similar to CD-RW drives, also can write 700MB to write-once CD-Rs and 650MB to rewriteable CD-RWs.

Blank media costs just 28 cents for DVD±Rs and 18 cents for CD-Rs online, so it makes financial sense to use optical discs for backups. DVDs and CDs are portable, too, so you can easily store them offsite.

However, the optical backup option is "just not as convenient as hard drives, nor is it automatic," says Dave Reinsel, program director of storage research at IDC ([www.idc.com](http://www.idc.com)). "Users have to remember to burn the DVD. In fact, choose any removable media, which provides the capability for offsite archive, and you introduce a manual process."

DVDs and CDs are more resilient than hard drives, but they're also easy to scratch—except for discs with special coatings, such as TDK's Durabis line ([www.tdk.com](http://www.tdk.com)). Opinions vary on how long data lasts on optical discs, but you can expect at least a few years' reliability under normal indoor



**Sony's upcoming BWU-100A Blu-ray drive (price not yet set) will use discs that store 25GB (\$20 to \$25) or 50GB (\$48 to \$60) on a single disc, but its media will have to come down in price before Blu-ray can challenge DVDs.**

cartridge and runs at speeds between that of a DVD burner and a current hard drive. It isn't very economical, but it does have the advantage of using relatively tough cartridges with excellent data longevity (Iomega estimates 30 years). In addition, a new competitor for small and medium-sized businesses is Quantum's GoVault (\$299; [www.quantum.com](http://www.quantum.com)) with 40GB, 80GB, and 120GB cartridges (\$135 and up).

conditions away from bright light sources. Set your backup software to verify the data on every disc it writes, and you shouldn't have to worry about the occasional disc defect.

## Other Options

The new Blu-ray optical disc format stores 25GB (single-layer discs; \$20 to \$25) or 50GB (dual-layer discs; \$48 to \$60) on BD-R (recordable once) or BD-RE (rewriteable) media, but it's currently too expensive to recommend over DVD media. The upcoming HD DVD format initially could be pricey, too. (Prices for computer-compatible drives in these categories were unavailable at the time of this writing.)

Iomega's REV drive (\$340; [www.iomega.com](http://www.iomega.com)) stores 35GB per \$50

## Combine Your Efforts

Any storage medium—magnetic or optical, tape or solid state—can lose data. Some media are defective from the factory, and some develop bad sectors later on.

Until we're satisfied that online backup services can protect our data's privacy with clear-cut legislation, we recommend a combination approach to backups. Make regular (perhaps bi-weekly) backups to an external hard drive, but also perform less frequent (maybe monthly or quarterly) backups to CD or DVD media. And be sure to store the optical discs in a safe deposit box, a relative's house, or some other safe, offsite location. ■

BY MARTY SEMS

## What Not To Use

Of course, you *can* use the following for light backup duty, but don't say we didn't warn you not to rely on them. They just don't compare well to today's better options.

Device Type	Comments
Flash Memory Drives/Cards	These can and do die without warning; their prices are decreasing
Tape Drives (Travan, DDS, etc.)	Slow with expensive-per-gigabyte media, although several formats have long archival life
Zip/LS120 SuperDisk Drives	Some are better than others but slow and small overall
Jaz Drives	Expensive per gigabyte and pretty scarce these days
Floppy Diskettes	Unreliable, slow, barely any capacity; vulnerable to magnets



# Best Of The Backup Software Batch

## Look For Performance You Can Count On

**A**nyone who depends on a computer will eventually learn one very important lesson: A backup is the only insurance against data loss. Fortunately, users have a multitude of options for creating backups. The most primitive option involves copying files to a secondary storage location, such as a floppy diskette, a USB drive, a second hard drive, or another computer on the network. This option is effective when dealing with individual files, but it quickly proves unfeasible when trying to back up the contents of an entire folder or drive. For large-scale archiving, a backup utility is needed.

Many users assume any backup utility will do. And most of the time, they're right. For average home computer users with average needs—such as a few folders' worth of digital documents, spreadsheets, snapshots, and audio files—a basic backup tool set to run daily or once per week is quite adequate. But for those who depend on their computers for a living, something more is needed to ensure their work. These users could benefit from advanced features such as data encryption and network support.

Then there's the question of whether you should use backup software or drive-imaging software. To read more about the differences between the two types, see "Backup Basics" on page 50 and "Be A Disaster Master" on page 63. Because each situation is unique,

we encourage all users to consider a variety of programs, including the ones we discuss in this article—which are primarily regarded as backup applications—before settling on one program.

### Microsoft Backup

The first backup utility every user should know about is Microsoft Backup—you know; the one Microsoft hid on the installation discs for Windows Me and Windows XP Home. Users who want to run Microsoft Backup on WinMe or WinXP Home computers must install the utility manually from the installation disc.

After inserting the installation disc in the optical drive and clicking the Exit button in the resulting dialog box, the user should open Windows Explorer and click the plus sign (+) that corresponds to the optical drive's icon. Next, the user should click the plus sign for the VALUEADD and MSFT folders (ADD-ONS and MS-BACKUP in WinMe), select the NT-BACKUP folder (in WinXP only), and double-click the Ntbackup.msi file (Msbexp.exe in WinMe) inside this last folder. The Windows Backup Utility Installation then will start loading. When it finishes, the user should click Finish and restart the PC to complete the process.

Microsoft Backup is a bare-bones utility that lets users perform full and incremental data backups, but that's about it. The utility can't burn backups directly to optical discs, nor does it support scheduled backups.

Users can add the utility to the Scheduled Tasks tool, which will launch the program window at a specified time, but users must follow the step-by-step wizard to execute the backup itself. There's no complaining about the price, though; Microsoft Backup is free, making it an excellent solution for users with minimal backup needs.

### Backup Manager Home Edition 6.0

Most of the other utilities we cover in this article provide an array of advanced backup capabilities. As an example, consider what Genie-Soft's Backup Manager Home Edition 6.0 (\$49.95; [www.genie-soft.com](http://www.genie-soft.com)) has to offer.

Backup Manager Home boasts support for AES (Advanced Encryption Standard; the government-supported 128-bit standard for data encryption); scheduled automated backups; self-executing backups for restoration on any computer; and file filtering for backing up only those files that meet specific criteria in a selected folder or drive. Backup Manager Home also supports almost every type of backup device imaginable, including rewriteable disc drives and network drives. Plus, it lets users restore individual files without restoring all the contents of the corresponding full or incremental backup.

Users who invest in a full-featured backup utility such as Backup Manager Home get more than a bullet-list of features, though. They also get peace of mind. In a data-driven culture like ours, small businesses and self-employed

individuals need to know their files are safe from corruption and loss, and a comprehensive backup utility such as this provides enterprise-level protection at a price most users can afford.

### Norton Save & Restore

Symantec, arguably the biggest developer of PC utilities, has recently announced the release of its most recent backup program, Norton Save & Restore (\$69.99; [www.symantec.com](http://www.symantec.com)). Save & Restore is essentially an updated version of Symantec's popular drive-imaging software, Norton Ghost, with the addition of several features typically associated with traditional backup software, such as the ability to back up individual files along with entire drives, as well as the ability to back up only files of a certain type, including digital images and videos.

Although it costs more than comparable products and is available for use only with WinXP, Norton Save & Restore is sure to become a serious competitor in the backup software market because of its many features.

### ShadowBack

Among the most intuitive backup utilities is ShadowBack from Warm and Fuzzy Logic (\$59.95; [www.warmandfuzzylogic.com](http://www.warmandfuzzylogic.com)). Everything about ShadowBack is designed for ease of use, though its capabilities go far beyond the basics provided by Microsoft Backup and other low-end backup tools.

With ShadowBack, users can create a backup schedule or set the utility to perform automated as-needed backups whenever data changes. The software delivers compression and encryption capabilities and can accommodate a variety of storage media and devices, including rewriteable discs and drives, USB and FireWire drives, tape drives, and network drives. Ultimately, though, ShadowBack gives users the ability to shape backup routines into processes that meet their particular needs and skill levels.

### Simple BackUp & BackUp MyPC 2006 Deluxe

Sonic's Simple BackUp (\$29.99; [www.sonic.com](http://www.sonic.com)) is just what it claims to be. The wizard-based program makes backing up a breeze by guiding users step-by-step through the process of creating and restoring data backups. The utility supports automatic backups, data compression, whole-system backups, and direct recording to most disc-based media.

Users who want more than Simple BackUp has to offer should take a look at BackUp MyPC 2006 Deluxe (\$49.99). BackUp MyPC boasts many of the same features found in other full-featured backup utilities, such as a backup scheduler, support for a wide variety of backup media, as well as data compression and backup verification capabilities. It also comes bundled with Roxio's STOPzilla software for blocking spyware and adware pop-ups.

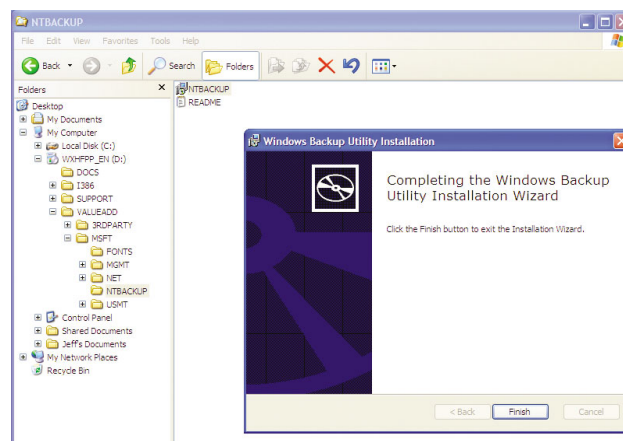
### Eazy Backup 3

How many users know the name of the folder that contains email messages? How many know the Registry's file name and location? The answer to both questions: not many. How then do these users know they're backing up all of their mission-critical data? The fact is they don't, and that's where a program such as Eazy Backup 3 from AJSystems.com (\$49.95; [www.ajsystems.com](http://www.ajsystems.com)) comes in handy.

The Eazy Backup developers programmed the backup utility to recognize several popular programs and then automatically backs up the data associated with those programs. Among the programs that

Eazy Backup recognizes are Internet Explorer, Microsoft Outlook and Outlook Express, Eudora, Netscape, Microsoft Money, ACT!, and Intuit Quicken and QuickBooks. The backup utility also has the ability to restore data from these programs to their original file locations.

Eazy Backup isn't the only utility with backup support for popular programs; ShadowBack and Backup Manager Home also boast variations of this feature. Likewise, several software developers have released niche-oriented backup tools that are designed for the sole purpose of backing up data files associated with particular applications. Some available titles for backing up Microsoft Outlook, for instance, include AJSystems.com's OutBack Plus 5 (\$39.95) and Genie-Soft's Genie Outlook Backup 6.0 (\$29.95).



You won't find Microsoft Backup on your copy of Windows Me or Windows XP Home; for some reason, Microsoft left it on the installation discs, requiring you to find it and install it from there.

### NovaBACKUP 7.3

NovaStor's NovaBACKUP 7.3 (\$49.95; [www.novastor.com](http://www.novastor.com)) is a backup utility with a long history. The latest version provides an array of popular features, including scheduled backups, network backups, disaster recovery, the ability to back up open files, and support for all kinds of storage media. It also has a virus



scanner for identifying (but not fixing) infected files.

Another option NovaStor provides is a Web-based backup service. After downloading NovaStor Online Backup Services Client, users can upload their data backups to a secure online server. The service makes up for its lack of advanced features by providing unparalleled convenience to mobile PC users who would rather not cart around a backup drive or pile of CD-RWs. NovaStor's backup service costs as little as \$9.95 per month or \$99.50 annually for storing 500MB of data online. Other online backup services include SwapDrive's @Backup (www.backup.com) and Pro Softnet's IBackup (www.ibackup.com).

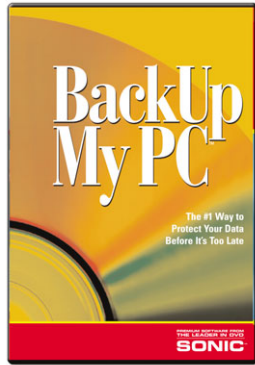
## WinBackup 2.0

The full-featured WinBackup 2.0 from Uniblue (\$49.95; www.liutilities.com) offers a host of extended capabilities that one expects from a top-of-the-line backup utility, including support for most backup media, network drives, and RAID arrays, backup scheduling, bit-level data validation to ensure data integrity, AES encryption and password protection, and automated backups of popular program data sets.

Users willing to forego the most recent backup innovations can get the previous version of WinBackup by visiting the Uniblue Downloads page at www.liutilities.com/support/downloads and clicking the WinBackup 1.\* Update link. The early-model utility offers many of the same features found in WinBackup 2 and, best of all, it's free.

## EMC Retrospect 7.5 Professional

It's one thing to have a network; it's another to have an *active* network.



**BackUp MyPC Deluxe earned the Smart Choice distinction when *Smart Computing* released its head-to-head, in-depth roundup review in May 2005. A year later, it remains a smart choice for home users.**

Users who have active home and small-office networks, on which multiple users are creating and modifying mission-critical files on multiple systems, would be wise to invest in a network-capable backup utility such as EMC's Retrospect 7.5 Professional (\$129; www.emc insignia.com).

Formerly owned by Dantz, Retrospect offers a robust set of backup capabilities, including support for scheduled backups, AES encryption, file compression, multiplatform networks, practically any storage media, and an automated disaster recovery feature for quickly resolving issues of catastrophic data loss.

In addition, Retrospect can back up data in open files as well as archive old files to maximize local storage space.

Best of all, for owners of small networks, the utility's license agreement lets users install the program on a central server PC and two networked client computers.

## Double Image0

Less expensive but just as robust as Retrospect is Host Interface's Double ImageO (\$99; www.hostinterface.com); it can handle just about any backup job a user throws its way. Plus, in addition to the features one would expect, such as scheduled backups and support for every kind of media available, Double ImageO boasts advanced functions, such as the ability to back up open files, run multiple backups simultaneously, back up data on a network or RAID array, and create detailed backup reports. And what if a user wants to access a backed up file from a PC that doesn't have Double ImageO installed on it? That's just fine, because the utility saves all data files in their native formats for easy retrieval on any PC.

The utility also has an unlimited license, which means users can install it on all the computers in their networks without paying extra licensing fees.

## Pick One

Obviously, it's quite easy to find a quality backup utility. Many of the titles we profiled offer free 15- or 30-day trials to prospective customers, and we strongly encourage you to take advantage of these free trials when selecting a backup utility. Mission-critical data depends on it. ■

BY JEFF DODD

Creating an account with an online backup service is a simple matter of completing a user profile (as shown for @Backup), providing a valid credit card number, and installing a backup client.



# Follow The Backup Wizard

## Step-By-Step Archiving, Scheduling & Drive Imaging

**N**ow that you know what software to use and what to be wary of when making backups, it's time to do the deed. Regardless of whether you want to make a long-term copy of your data, schedule automated backups for your important files, or make a backup of your entire hard drive, we've got you covered.

### The Importance Of Archiving

If the data you want to back up will never be edited or otherwise changed, archiving is the best solution. This is a one-time backup of data you plan to store long-term, and it's best suited for original (pre-edited) digital photos and videos, as well as digital music and vital documents that you may need to access (but not change) in the future.

All backup programs are suitable for archiving, including the Backup utility that ships with Windows XP. If you have WinXP Professional, the software is already installed. (From the Start menu, click All Programs, Accessories, System Tools, and Backup.) If you have WinXP Home, you'll need to install the software from the

installation CD-ROM if you haven't done so already. For instructions, see "Best Of The Backup Software Batch" on page 57.

The Backup utility should start in wizard mode, but if not, expand the Tools menu and click Switch To Wizard Mode. Click Next, select the Back Up Files And Settings radio button, and click Next. The following dialog box asks what you'd like to back up; although it offers to copy your Internet Explorer Favorites and My Documents folder, let's pick files and folders manually by selecting the Let Me Choose What To Back Up radio button and clicking Next.

Designate what you want to add to the backup by selecting checkboxes next to folders or individual files. Click folders in the left pane to display their contents in the right pane. When you finish making your selections, click Next and select a place to store the backup file. You can either manually enter a file path or click

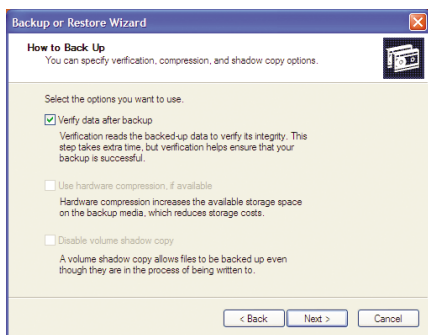
Browse to navigate to the appropriate folder. Remember that WinXP's Backup utility won't store backups directly on an optical disc, but you can read our "Transferring Backups" sidebar to find out how to work around this restriction.

Give the backup file a name, click Next, and click Finish. There are ways to use the Backup utility for additional tasks, such as backup scheduling and incremental backups, but if you plan to do anything beyond archiving data, we strongly recommend using a more robust third-party backup application.

### Schedule Incremental Backups

All good backup software lets you schedule automated backups, but only the best of these applications saves you time and computer resources by doing this incrementally. With an incremental backup, only files that have been changed or added to a folder are added to the existing backup file. Using this method, the backup process takes much less time than it does when the entire folder is backed up.

Genie Backup Manager Home (\$49.95; [www.genie-soft.com](http://www.genie-soft.com)) is a great program that allows for incremental backups, so we'll use it as our example application. To set it up, launch the software, click Backup in the right pane of the main window, make sure the Create New Backup Job radio button is selected, and give the backup a name. Click Next and select the radio button that



**Be sure to select the option to verify the data in Windows XP's Backup utility, as it's worth the extra time to make sure your system properly completes the backup.**

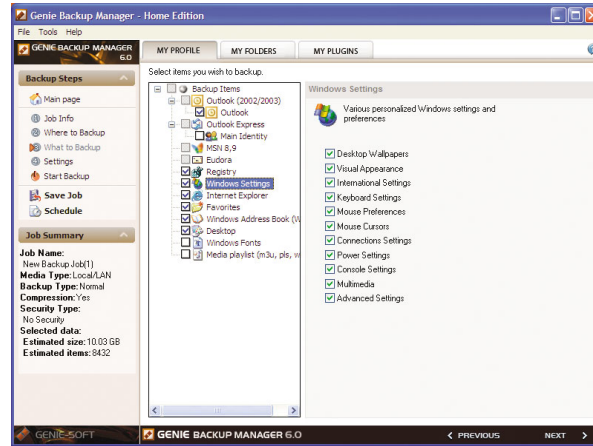
corresponds to the backup media you plan to use. The software can make backups directly to CDs or DVDs, but for incremental backups, it's usually better to make them to a hard drive because the information in the backup frequently changes (and is more likely to be accessed often).

Click Next and choose the My Profile tab. This section lets you back up information such as Outlook email messages, Internet Explorer Favorites, the Windows Desktop settings and icons, and the Windows Registry. Select all the options you want to back up, and if you also want to back up particular files and folders, choose the My Folders tab so you can select the appropriate checkboxes in that section, as well.

The My Plugins tab is where you'll see a list of miscellaneous files that Genie Backup Manager can automatically back up. You can even click Download New Plugins to get additional options you can designate as files you want to automatically back up. These options, available via the Genie-Soft Web site, cover more games and programs than are included with the default installation.

After you've selected everything of importance on these three tabs, click Next and select the Increment radio button. This action designates the backup as an incremental backup file, and because of this, future backups are created only if files you included in the backup are edited or new files are added to specific areas.

The Enable Rollback option maintains copies of original backup files and edited versions of those files so you can revert to an earlier version if necessary. This is handy if an edited file becomes corrupted before Genie Backup Manager



**Genie Backup Manager's My Profile tool allows you to back up all sorts of files and settings that are impossible to access by merely using WinXP's Backup utility.**

has a chance to back it up, as you can simply access an earlier version of the file from the rollback archive instead of getting stuck with only the corrupted version.

Select the Backup Without Compression option if you plan to access the backed up files a lot, or if you're worried about the entire archive becoming corrupted (which is possible with compressed files). If you use compression, the Default compression level is just fine and is much faster than the Best level.

If you decide to use one of the security options, which adds password protection to the backup file,

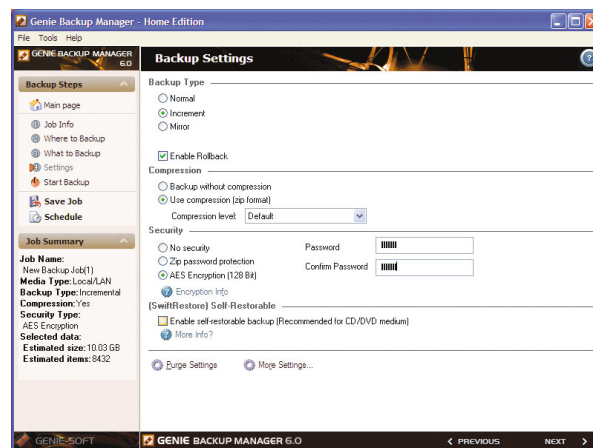
remember that Zip password protection only works if you choose to compress the data. AES (Advanced Encryption Standard; the 128-bit standard for data encryption) is a far more secure option than a Zip password, but it adds another level of processing to the backup, and as a result, it slightly increases the likelihood that the backup may become corrupted. Even so, using AES is definitely worth this infinitesimal risk if the security of your data is extremely important. However, AES-encrypted files are nearly impossible to crack, so just be

sure to remember your password.

Don't worry about enabling the SwiftRestore option; it's best to use it for creating archive files that you may not need to access for years to come. Click Next and then click Backup Now, and Genie Backup Manager will create your backup.

Click Verify Now if you want to check the integrity of the data and then click Main Page. After that, click Schedule Wizard in the right pane, click Create New Schedule, select the name of the backup you just created, and click Next. Select Daily, Weekly, or Monthly from the drop-down menu (depending on how often you want to maintain the backup), and select any additional options that might be necessary to fit the backup process within your schedule, such as the time frame and day of the week you want the software to run an automated backup. Click Next, enter the User Name and Password for your computer (if necessary), and click Finish.

Genie Backup Manager will automatically maintain the backup file you created, including adding any new files created afterward or changing files that are edited as the



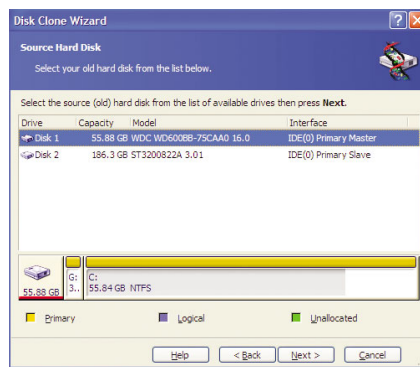
**Be careful about using encryption for long-term backups, as you may have to remember the password a long time from now.**



contents of the files and folders you selected change over time.

## Take The Drive-Imaging Route

If you want to make a backup of your entire hard drive, or transfer the contents of an existing drive to a newer, higher-capacity drive, you should definitely invest in a good third-party application that's designed for these tasks. Acronis True Image 9.0 Home (\$49.99; [www.acronis.com](http://www.acronis.com)) is one such product, and it's very user-friendly. To use it, you must install the new hard drive as a secondary or slave drive using the instructions the drive shipped with, and then you need to make sure the new drive has as much or more storage space than the original hard drive.



**Acronis True Image 9.0 Home lets you create a carbon copy of your entire hard drive.**

After that, launch True Image, click Clone Disk, and click Next. Select the Automatic radio button, click Next, select the icon for the hard drive you want to copy, and click Next. This time,

select the icon for the drive you want to copy data *to* and click Next. If the new drive isn't completely empty, select the Delete Partitions On The Destination Hard Disk radio button and click Next.

Click Next again, and select the Keep Data radio button if you want to keep a copy of all of the original data on the original hard drive; if not, select Create A New Partition Layout to erase the original drive but leave it ready to store data in the future.

Click Next and select Normal if you decided to get rid of the data on the old hard drive. This option overwrites the data several times, making the information almost impossible to recover should someone get their hands on the old drive. Click Next and select Proportional to maintain the structure of the original drive but compensate for the additional space. Click Next and click Proceed to clone the drive.

When the operation is complete, you should be able to install the new drive as the primary hard drive and then use the old drive for additional storage or to permanently store all of the files you just copied.

For more information about the drive-imaging process, see "Be A Disaster Master" on page 63.

## A Bright Future For Backups

Of course, if what Microsoft claims is true, you may not need articles such as this one once the company releases Windows Vista. The OS (operating system) successor to WinXP supposedly will include integrated backup software that is much more powerful than the Backup utility shipped with previous versions and include the ability to back up files directly to optical discs. Additional features remain to be seen, but until Microsoft finally releases Vista (which will likely take quite awhile), at least we have products such as Genie Backup Manager and True Image to cater to our backup needs. ■

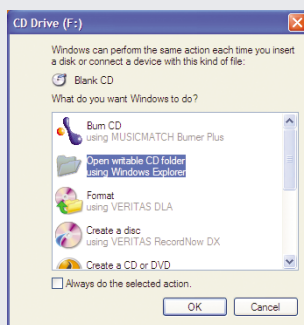
BY TRACY BAKER

## Transferring Backups

**W**ant to get the files you created with Windows XP's Backup utility onto an optical disc but don't have third-party backup software? If possible, use the disc-recording application that came with your recordable/rewriteable optical drive. But if you don't have such an application, you can still use WinXP's integrated recording capabilities to find a way to store data on a CD. (Unfortunately, DVDs aren't supported.)

Insert a recordable/rewriteable CD in your CD-R (CD-recordable) or CD-RW (CD-rewriteable) drive, select Open Writable CD Folder when the option

appears in the drive's dialog box, and click OK. If that option doesn't automatically appear, click My Computer



**If you have WinXP, an option to create a writeable folder appears whenever you insert a blank CD in the computer's recordable/rewriteable CD drive.**

from the Start menu and double-click the CD-R/-RW drive icon. Navigate to the folder where you saved the backup file(s) and drag

and drop the file(s) to the window that's open for the CD-R/-RW drive.

Backup files that WinXP's Backup utility created use the .BKF file extension. If your settings currently hide file extensions, open any folder, open the Tools menu, click Folder Options, choose the View tab, deselect the Hide Extensions For Known File Types checkbox, and click Apply To All Folders.

After the BKF file or files are visible in the CD-R/-RW drive's window (you can drag and drop as many backup files as space permits), click Write These Files To CD and click Next to finish the recording process. ■



# Be A Disaster Master

## Put Your Backup Plan Into Action & Restore Your Data

**J**ust like setting your alarm clock each evening, performing computer backups is now second nature and a common element of your routine, right? And you know that when disaster strikes, those backups will immediately come to the rescue, restoring all your precious data that otherwise would be lost.

However, even though we regularly follow the practice of creating backups, we almost never get a chance to actually restore them, and that's a good thing. But when you're facing a damaged hard drive that no longer boots, you don't want to be scrambling to find restoration instructions because that's when you need your data and you need it now.

### Ditch The Drive

Although backups are essential, they can be useless if there's no practical method to restore them when an emergency strikes. Today's backup programs help you create a bootable CD, DVD, or floppy diskette that you can use to recover data stored on your backup media. Using one of these discs or floppies, you can boot your computer directly to that media, which contains a program that will

walk you through the process of restoring data.

Before you use emergency media to restore your data, you'll first need to address your dead hard drive. By "dead hard drive," we mean a drive that your BIOS (Basic Input/Output System) can't recognize, or if it does recognize the drive, it returns a diagnostic message that indicates the drive has failed (such as "Primary master hard disk failure").

To restore your system, you'll need to replace the hard drive, insert your emergency recovery disc or floppy, and follow the prompts to begin the recovery process. If you didn't make a complete backup of your system (that is, create a mirror image of your drive), you won't be able to use this method. Instead, you'll need to install Windows from scratch on your new hard drive and then install your backup software before being able to restore any files that you previously backed up.

If you did make a complete backup (mirror image) of your system, we'll walk you through the process of restoring your Windows environment and data, and we'll use Acronis True Image ([www.acronis.com](http://www.acronis.com)) as an example of how this type of backup software and the restoration process works.

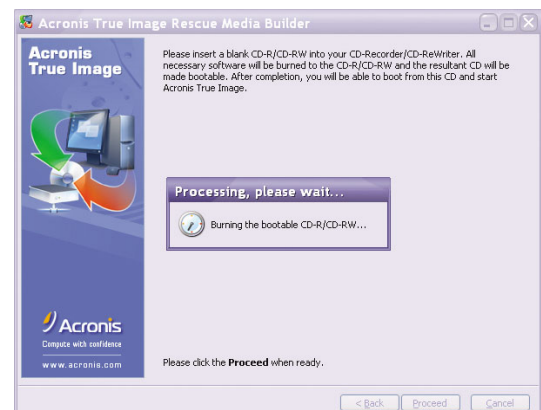
### Time To Restore

A crucial ingredient of the backup recipe is the

emergency disc (or floppy) that you made when you created your system backup, although some backup applications, such as Symantec's Norton Ghost, require only the original product disc (not an emergency disc).

Without that emergency or product disc, you won't be able to boot your computer using the backup software, but that doesn't mean you can't restore your system; as we mentioned earlier, you'll need to install Windows on your new drive, reinstall the backup software, and then restore the backup using your backup discs or files stored on another drive. But the boot disc can save you lots of time by helping you immediately restore your system to the new drive without installing Windows.

Restoring your system backup might sound like a harrowing process, but it's really quite simple because your backup software will walk you



Always create a bootable CD or floppy diskette using your backup software so you'll be able to restore your backups directly to your new drive.

through the process. In fact, the only potentially tricky step is booting to the emergency disc, and that's only troublesome if your BIOS isn't configured to automatically boot to a CD because you'll need to manually configure it.

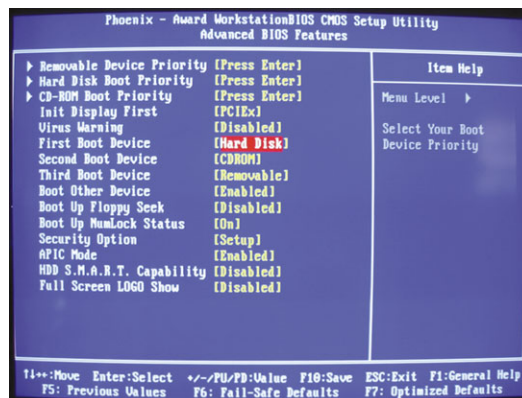
After you install your new hard drive using the instructions included with the drive, turn on your computer and insert your emergency CD or floppy, and then restart your computer (and because you won't be in Windows at this point, you'll need to press the restart or power button on your PC). The BIOS should recognize that there isn't an OS (operating system) on the drive and automatically look to boot from the CD or floppy. If you see the software starting, you're in luck; but if the system returns an error and stops loading, you'll need to enter the BIOS.

If this is the first time you've entered your BIOS, don't worry too much about it because you can't damage your system unless you manually make changes and confirm the changes before exiting the BIOS. With that said, *never* make changes unless you understand what those changes will do—many of these settings can profoundly affect your system's performance. Because the BIOS may vary among different computers, you should check your motherboard manual to see how to change the device boot order, but we'll walk you through a typical scenario here, using the Phoenix BIOS as an example.

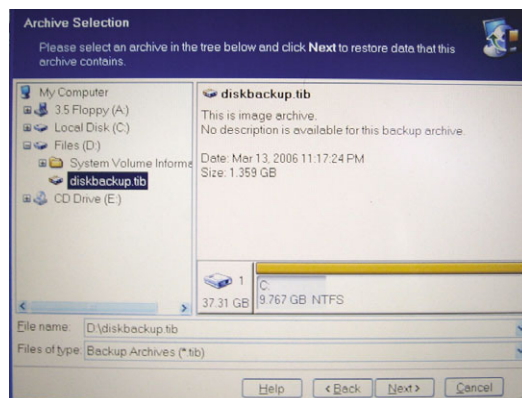
On the main Phoenix menu, use your keyboard's arrow keys to select Advanced BIOS Features and press ENTER. On the Advanced BIOS Features screen, select First Boot Device, press ENTER, and in the pop-up menu, select CDROM (if you're using a floppy to boot your backup software, select Removable) and press ENTER. Press ESC to exit the Advanced BIOS

Features screen, select Save & Exit Setup, press Y to confirm the changes, and press ENTER.

Once your computer restarts, the BIOS will recognize the bootable CD or floppy and start the backup program. The particular software we're using (Acronis True Image) first displays an introduction screen that offers three options: Start the full



**When the Advanced BIOS Features screen (or something similar in your BIOS [Basic Input/Output System]) displays the order of boot devices on your system, use the First Boot Device entry to change the order.**



**In the Acronis True Image application, you can browse through other connected hard drives or your media to search for backup images.**

version, which includes drivers for USB, PC Card, and SCSI (Small Computer System Interface) devices; start the safe version, which doesn't include support for those devices; or boot into Windows. Acronis recommends starting the full software version to provide support for any

related devices, but if you're restoring a backup to a standard IDE (Integrated Drive Electronics) hard drive, you can use either the first or the second option.

After choosing either the full or safe version of Acronis True Image, the software displays its main window, which offers a variety of functions. The second option, Recovery, will allow you to restore the image of your previous hard drive to your new drive, so click it to launch the Restore Data Wizard. Click Next to go to the Archive Selection dialog box, where you can browse for the image file you previously created. True Image backup files use .TIB extensions, so select the TIB file that represents the latest image of your system drive and click Next.

In the following dialog box, select Restore Disks Or Partitions to completely restore the image to your new hard drive and click Next. When the next dialog box displays the drive image, select it, click Next, and then select your new hard drive (or drive partition) on the subsequent dialog box, and click Next. Now you'll need to select the restored partition type, and because this image will serve as your system drive or partition, select the Active option and click Next. (True Image automatically selects the original partition type, so the restored partition type should already be Active.)

Now True Image gives you the opportunity to specify the size and location of the restored partition. The minimum partition size displayed by True Image represents the amount of data that exists in

the image, but you shouldn't limit your partition to that minimum size because you'll run into problems later when installing more programs or otherwise storing more data on that drive.

Try to keep at least 5GB of extra space on the system partition, and leave the rest as free space that you'll



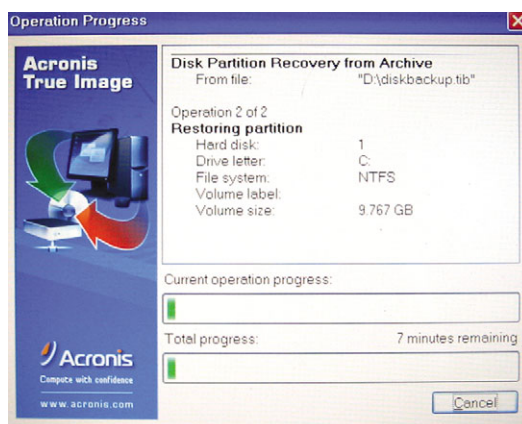
be able to format and partition later in Windows. If you already formatted your drive according to the size of the partitions you desire, you won't need to change the partition size. For instance, if you restore your old 12GB drive to a new 60GB drive and create a new system partition of 18GB, the remaining storage on the new hard drive will remain on the drive but will be unallocated and unformatted, and you won't be able to use that remaining storage until you format it. Although it's technically possible to restore the 12GB image to a single, 60GB partition that comprises all of the new drive's storage, it's best to create a separate system partition, as this is generally more efficient than storing all of your computer's data—including the system files—on one partition.

If your backup software allows you to create new partitions (or a single, second partition) from the remaining space on your new hard drive during the restoration process, it's less of a hassle to do it at that time, rather than wait to create new partitions and format them after restoring your system partition. However, if you do choose to wait until after you restore your system partition to deal with the remaining space, you can use the Disk Management utility in Windows XP to create and format partitions (for information on using the Disk Management utility, visit [support.microsoft.com/?kbid=309000](http://support.microsoft.com/?kbid=309000)). For older Windows versions, it's better to use a partition utility such as Symantec's Norton Partition Magic (\$69.95; [www.symantec.com/home\\_homeoffice/products/system\\_performance/pm80](http://www.symantec.com/home_homeoffice/products/system_performance/pm80)) or Paragon Partition Manager (\$49.95; [www.partition-manager.com](http://www.partition-manager.com)), though the included Fdisk utility also can do the job, albeit in a more complicated manner. (For more information on using Fdisk, visit [support.microsoft.com/kb/q255867](http://support.microsoft.com/kb/q255867).)

Returning to the True Image example, click Next after selecting your

restored partition size. True Image then asks if you want to assign a logical drive letter to the restored partition. Because this will be your system partition, stick with the recommended "C" selection and click Next. In the resulting dialog box, you can select options for checking the backup before restoration and checking the file system after restoration. The file system check is fine, but if this is your only image backup, don't waste your time performing a backup check because if it's corrupted, you're out of luck anyway and will need to reinstall Windows from scratch. Click Next.

The next dialog box asks if you want to restore another partition or hard drive from the backup archive, but because you're restoring only your system



**You're almost home free at this point. If you previously tested your backup archive using your backup software, the restoration process will be successful.**

drive, select No I Do Not and click Next. Finally, you'll see a confirmation dialog box that displays your recovery file, target partition, and restoration partition. If all looks as planned, click Proceed and relax while the software restores your backup image.

After the process is complete, True Image displays a confirmation dialog box that indicates the software successfully restored your backup. When True Image then returns to the main dialog box, click Operations and Exit to quit True Image and restart your system.

## Full Steam Ahead

Once you finish restoring your backup to the new hard drive, check to make sure all of your data is intact and everything is operating correctly. If your Windows environment is unstable, you should immediately save all of your files and settings to a backup because you might need to reinstall Windows if your backup software didn't properly restore your backup files. If your backup restoration was successful and you have backups of other partitions contained on that original drive, you can now restore those to your new drive.

The beauty of backup programs that create image files of your hard drive or partition is that they copy the entire file system to the new drive, along with the OS and other files, which means you won't need to endure the hassle of manually formatting and partitioning your drive before you restore the backup file. However, not all backup software is the same, so follow the software's instructions for preparing your new drive before restoration. Also, if you simply create backups that contain only your important files and settings and not an image of your hard drive, you'll need to replace your hard drive, reinstall Windows, install the backup software, and restore your files.

Although you might never encounter a hard drive failure, it's always wise to use your backup software to test your backup files in the event you ever need them. For example, Acronis True Image includes a Check Archive Wizard that inspects the integrity of any of your backup archives to ensure they're fit for action when the need arises. After all, when you lose your hard drive, you won't have the opportunity to create a new backup, so you should always be sure your backup files are ready to go. ■

BY CHRISTIAN PERRY



# Backups & Data Recovery

Every operating system is bound to run into problems. The 18-page term paper you worked on so diligently might disappear. The digital pictures of the grandkids at the lake may simply vanish. Losing data can be scary and frustrating. Even more frustrating is not knowing how to recover from this situation and prevent it from happening again. The next time you can't find a solution to a computing question or problem, consult the Smart Computing Q&A Board. This subscriber-only feature is a great resource for getting quick and helpful responses to your computing problems.

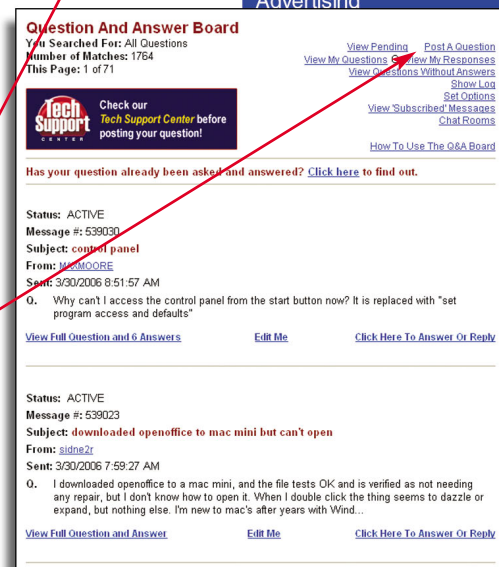
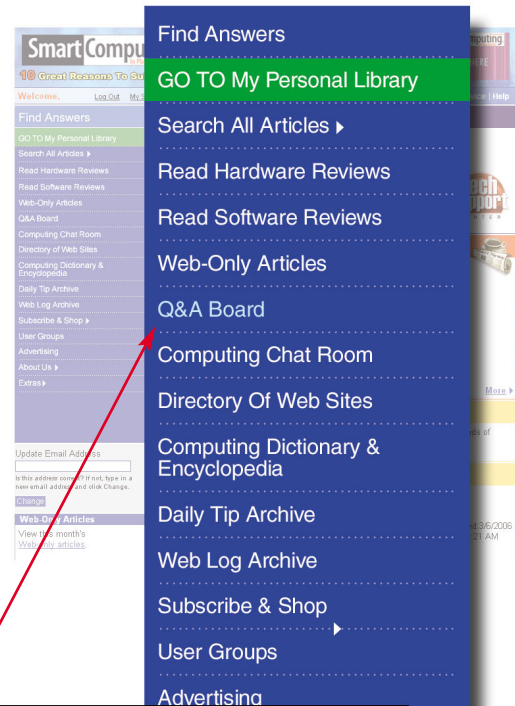
Before posting your backup or data recovery question on the Q&A Board, be sure to check out the Tech Support Center and its extensive resources, including an error message search, solutions knowledgebase, and a wide range of troubleshooting articles.

It may also be helpful to utilize the Q&A Board search at the bottom of the page, because more than likely, someone has had the same lost-data-woes you are experiencing. You can search by keyword and sort your results by relevance or a specific date range to make finding answers quick and easy.

Log on to SmartComputing.com and click the Q&A Board link.

To ask your question, click the Post A Question link in the upper-right of the page (make sure you are logged in to the site).

Use the Subscribe To This Message link at the bottom of the question to be notified by email of any answers posted.



[www.smartcomputing.com](http://www.smartcomputing.com) The ultimate computing resource.

# Hop On The Bus, Gus

## Add A USB Hub To Your PC

**D**igital cameras, MP3 players, digital video cameras, printers, and scanners—the list goes on. These days, it seems like almost every electronic device imaginable can be connected to your computer. Although newer computers make it easy to do so by offering multiple USB (Universal Serial Bus) ports (through which you can connect those devices), you may still run short of ports.

That's where a USB hub can come in handy. (This device is not to be confused with a USB switch, which allows you to connect one device, such as a printer, to multiple PCs.) A USB hub contains multiple USB ports, or small USB sockets. If you only have one or two USB ports on your PC, a USB hub can make life easier by giving you an abundance of USB ports. Rather than routinely unplugging one device from your PC in order to plug in another, a USB hub allows you to simultaneously connect your printer and, say, your digital camera and MP3 player, to your PC. It also has the added advantage of placing your USB ports in a more easily accessible location than the back of your computer where many PC's USB ports are found.

Setting up a working USB hub is a fairly simple procedure, provided you've done your homework. Your

first step is to take stock of your current system to make sure that it will allow you to connect a USB hub. A USB hub allows you to add additional USB ports to your system, but it does not create USB capabilities for your computer. In other words, if you don't have an existing USB port on your PC, which is often the case with older PCs, you will not be able to connect a USB hub to your computer.

In general, PCs made before 1997 don't support USB. If you aren't sure whether your PC is USB-ready, we recommend you visit the USB Implementers Forum and download the free USB Evaluation Utility at [www.usb.org/about/faq/ans3](http://www.usb.org/about/faq/ans3).

Your second step is to spell out exactly why you need a USB hub, because that will determine the type of hub you buy (and consequently how you add it to your system). Keep in mind that a USB hub will not work for every device or situation. For example, a wireless network may not work with a USB hub because its hardware may need a dedicated USB port.

There are two main types of USB hubs: bus-powered and self-powered.

A bus-powered hub, also called an unpowered hub, is one that draws its power from the PC. A self-powered hub, also known as a powered hub, is one that draws its power from an external power supply unit. Some devices don't work well with bus-powered hubs. For instance, devices that require a significant amount of power, such as scanners and external hard drives, typically don't run well, if at all, through unpowered USB hubs. In fact, we recommend that you get a powered hub even if you don't think you need it now, simply because you'll likely need one eventually.

Another item to consider is the USB version of the device, along with your PC's USB capabilities. When USB technology was first introduced, USB 1.0 (and 1.1 shortly thereafter) was the standard. Today's version 2.0 is noticeably faster (it bumped the speeds from 12Mbps [megabits per second] to 480Mbps). And USB 2.0 hubs are backward-compatible, meaning they will work with 1.0 USB ports and devices. A USB 2.0 device may require a

A USB hub allows you to connect multiple USB devices to your computer through one USB port on your PC.



Scanner



Printer



Camera





USB 2.0 hub. Consider the devices you'll be connecting and be sure to read any documentation.

Once you're ready to invest in a USB hub, you can do so for about \$20 to \$60. For example, Belkin ([www.belkin.com](http://www.belkin.com)) offers a 4-port hub for \$19.99, and Adaptec's ([adaptec.com](http://adaptec.com)) XHub4 device, which also features four ports, sells for \$59.99. Of course, before you purchase any particular device, be sure to verify that your computer meets the device's minimum system requirements. Also, read the hub's users manual as installation instructions may vary among devices.

Before installing the hub, just as you would with any new piece of hardware, we recommend you back up your hard drive. Then, unpack the USB hub and, assuming you're using a powered hub, plug the power cord into a power outlet. Connect the USB cable from the USB hub into an open USB port. Depending upon the particular hub you buy, the documentation may instruct you to do this in the reverse order, and it may tell you to make sure your PC is turned off as a safety precaution.

Also depending upon the USB hub you buy (and on the operating system you're running), you may also need to install a **device driver**, or software that comes with a peripheral that enables the peripheral device to communicate with a PC. Insert the CD-ROM into

USB hubs come in many shapes and sizes, including this built-in photo frame hub from Adaptec.



the CD drive and follow the on-screen instructions. Put the USB hub in a convenient location, such as on top or to the side of your PC, so you can easily connect your USB devices.

Test all of your USB devices by rebooting your PC and testing each device, one at a time. It's also a good idea to test a device in each port on the hub to make sure all the ports are working well. This is a quick process; because USB devices can be hot-swapped, you don't need to shut down the computer or the device each time you try out a port. Lastly, you can plug in multiple devices. And if you have more than, say, four devices, you can get a 6- or 7- (or perhaps even more) port USB hub, or you can daisy-chain USB hubs together. In theory, you can run up to 127 USB devices at once, although few users will take advantage of this capability. And if you're using powered USB hubs, manufacturers recommend all daisy-chained hubs are using the

power adapters that came with them so that all ports on all hubs receive the required power.

If your sole reason for upgrading your PC's USB capabilities is to increase its speed, it won't do you any good to invest in a USB 2.0 hub. (When selecting a USB hub, though, we recommend you buy a 2.0 one so it will allow you to run your devices as quickly as possible; there's no reason to upgrade to an old standard.) Keep in mind that the system runs to the lowest common denominator of speed. If the USB hub is 2.0, but your PC's USB port is 1.1, the highest speed the device will operate at is the 1.1 speed.

If you want to increase the speed of your USB connections, you can install an expansion card instead of a hub. The process for installing an expansion card is a bit more complicated than that for installing a USB hub, however: If you want to make it as easy as possible to listen to your MP3 player while downloading your digital pictures and printing a Word document, using a USB hub is likely your best option. ■



A 7-port hub, such as the Hi-Speed USB 2.0 7-Port Hub from Belkin, allows you to connect up to seven USB devices through one USB hub.

back view



# Broderbund Print Shop Deluxe 20

## Open Projects From A Variety Of Sources

Opening a project in Broderbund Print Shop Deluxe 20 can be a little more involved than opening a file in Microsoft Word because of the number of available options. You can open projects you have worked on and stored in the Project Gallery, on your PC, or from an outside source. Or you can search for and open a QuickStart Layout.

The Project Picker will be open if you have just started up Print Shop. Otherwise, click New Project and Project Picker on the Object Toolbar along the left side of the Print Shop window.

Click Create A Project in the Project Picker to display the available projects. Click Invitations, Customize A QuickStart Layout, and Next. You can also open a QuickStart Layout by clicking the Search Projects button in the Project Picker and then the All Projects tab in the Project Gallery. Lastly, you can click File and Search Projects from the Design Desk to open the Project Gallery.

Click the Category drop-down menu to choose a category or add one of your choosing by clicking the New button. The new category will be available from the Add to Project Category drop-down menu and will appear in the Choose Project Category box of the Project Gallery. Click Save, File, and Close.

### Open Your Own

You will open saved projects in different ways, depending on how you saved them.

Click File and Open and browse to where you saved the project if you saved to your PC but not to the Project Gallery. Select the appropriate project file type from the Files Of Type drop-down menu to search for a particular type of project.

Click the project name, and a preview of it will appear on the right side of the dialog box. Open it as you would any other file. Make changes to the project and save it again as described above.

Changes you make to a project you open from a file like this will show up in the My Projects area of the Project Gallery if you chose the Add To Project Gallery save option. A new version of the project will appear in My Projects each time you edit the project and save it with a different name. This is a good way to save various versions of a project and then compare them side-by-side.

### Import Projects

You can import projects into the Project Gallery that you or someone else created on another PC. The project can be modified and printed once it is imported, just like any other project.

Open the Project Picker from the Design Desk by clicking File and Search Projects. Click the My Projects tab and then File and Import. The Import Projects dialog box opens, letting you choose from projects on your PC, a floppy diskette, or a CD. Choose a category in which to save the project by clicking Add To Project Category or add a new category by clicking New. Click Import. This process doesn't work if your project is already in the My Projects area of the Project Gallery. ■

### Find & Save A Project

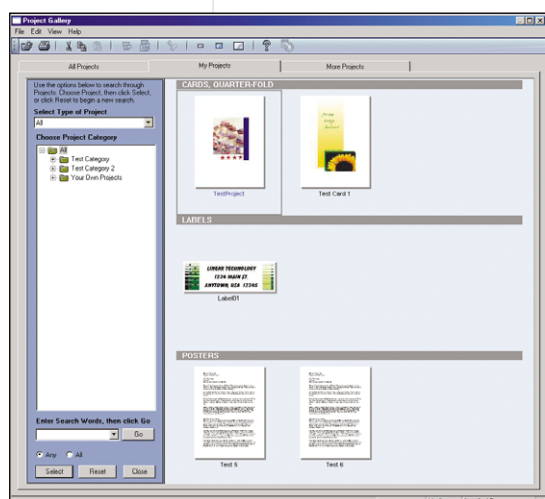
Define terms in the Select Type Of Project, Choose Project Category, and Enter Search Words areas to search for a particular kind of project in the Project Gallery. Click View and Advanced Search to display more criteria and refine a search.

You now should have a selection of

QuickStart Layouts displayed. Browse the projects, right-click the one you want, and choose Select. The Project Gallery closes and the layout appears on the Design Desk.

Save the project you currently have open by clicking File and Save As. The Save As dialog box lets you save the project as a file in the same way as you would save a word processing file, for example. Enter a name for the project and select a folder to save it in.

You can also save the project to the Project Gallery by selecting the Add To Project Gallery checkbox at the bottom of the Save As dialog



Open projects you previously created and saved in the Project Gallery's My Projects section.

# Online

Quick Studies  
How-To

## Consider Online Backups

Mozy (Beta)

Beginner

Computers come with unique dangers to match their unique abilities. Although data loss ranks pretty high on the list of scary potentialities, all too few users back up their data regularly.

Online backup services can help. Mozy ([www.mozy.com](http://www.mozy.com)) is a clean, free service that allots you 1GB to 2GB of online storage space and includes simple backup software that takes care of almost everything. At the time of this writing, the service was in beta and didn't yet offer larger, paid storage plans. Folks looking to back up gigabytes of video, music, or photos will probably find traditional solutions more cost-effective anyway. However, for important-yet-manageable small files, such as word processing documents, 2GB can be a lifesaver.

### Mosey On Over

Mozy requires registration with a "real" email address, but at the time of this writing, Mozy would double your storage space—from 1GB to 2GB—for filling out a simple survey form.

After you register, click the confirmation link in the email Mozy sends you and then you can download and install the Mozy software. Once you have it running,

Mozy asks for your login information, which is the email address and password you supplied during registration. Next, you'll need to select whether you want to encrypt your backup data with Mozy's encryption key or use one of your own. (If you use your own key, make sure you don't lose it.)

With the initial settings out of the way, the main Mozy backup window appears; in it, you'll see four tabs that contain all of the configuration options. Under the Backup Sets tab, Mozy lists some helpful predefined backup options, such as all documents (with standard word processing extensions) or all pictures. One note of caution: These automatic sets include only the files found in Windows' Documents And Settings folders (such as My Documents). If you keep files on another drive or in another folder, Mozy's prebuilt sets may not capture them.

That's where the next tab, Filesystem, comes into play. You can pick files and folders from anywhere on your system and include them in your backup. The file tree works as it would in other programs, so click the plus signs (+) next to drives and folders to drill down to the right subfolder. Then add or remove check marks next to the folders to select or deselect them for your backup set.

Next, click the Schedule tab. By default, Mozy will start new backup jobs periodically when your computer isn't in active use. If you'd rather control exactly when a backup starts, click Manual.

The last tab, My Computers, provides a summary of how much of your Mozy backup space is being used. A single user can back up files from more than one computer to his Mozy account, but all of the computers will share the same 1GB or 2GB of backup space. Click Save to finalize your backup configuration.

### Sit Back

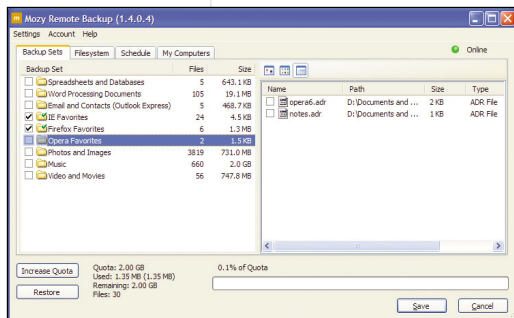
Mozy takes care of your backup job from here on out. The first backup may take some time because transferring a lot of files across the Internet is pretty slow compared to writing backups to an external or local network drive. Also, while a backup is in progress, your Internet connection may be noticeably slower because of the amount of bandwidth Mozy uses.

After the first session, Mozy backups should take much less time. The software tracks which files have actually changed since the last backup and only uploads those that are different from their already-backed-up counterparts.

Restoring files is almost as easy as uploading them. From Mozy's home page, click Account and then click Restore files. Use the drop-down menus to pick a date that matches when you last knew your files were OK. When you see a file tree with your files and directories on the left side, click the files or folders you want to restore and click Download. As with the backup process, performing a restore can take quite a bit of time depending on how large it is.

Given Mozy's simplicity and its price tag, you officially don't have a reason not to back up at least your most critical files. ■

BY ALAN PHELPS



Mozy is a free, online backup service that offers 2GB of storage space and an easy-to-use, set-and-forget backup client.



# Microsoft Word 2002

## Balance Macro Security & Accessibility

Quick Studies  
Problem Solver

Word Processing

Intermediate

2002 for  
Win9x/Me/NT  
4.0/2000/XP

**M**acros are great time-savers in Microsoft Word 2002. You can automate just about any action, including applying complex formatting, creating a mail merge, or repeating custom printing routines. The macro then makes available that series of actions at the click of a button or a keyboard shortcut.

You may run across an instance, however, when a warning appears upon either opening or closing Word asking you to verify whether you want to enable macros from a named source. Or macros that used to work just won't anymore. These things can occur when security settings for macros are changed.

Macros may contain viruses, so they need to be treated with care. They must be digitally signed from an accepted source to be fully secure. All macros shipped with Microsoft Office XP are digitally signed by Microsoft.

Increasing security settings to thwart viruses, however, may decrease accessibility to macros.

We will look here at how to use the macro security functions to manage this issue.

Click Tools on the menu bar. Select Macro, Security, and the Trusted Sources tab. Make sure the Trust All Installed Add-Ins And Templates box is checked. Click OK. Now any previously

installed macros will work. Close Word and restart it, and the warning dialog box should no longer appear.

### Change Security Level

The next thing to try is to adjust the security level of the macros that are allowed to run. Be careful here because of the virus threat. Make sure you trust the source of a macro before you allow it to become enabled.

Click Tools on the menu bar and then Macro and Security. Click the Security Level tab. Here you see how restrictive the security is regarding macros. Word 2002 and all other Office XP applications are installed with the macro security level set to High by default.

The High setting causes all suspicious macros to be automatically disabled. A macro is suspicious if

it has not been digitally signed by a certified source. The macro will be enabled if it comes from a source you have designated as trusted and the signature is valid. Changing the security setting to High from Medium or Low can therefore cause a macro that was previously enabled not to run.

### Add A Trusted Source

Macros must be signed and from a trusted source to be accepted automatically under the High and Medium security settings. Adding a macro developer to the list of trusted sources is a straightforward process.

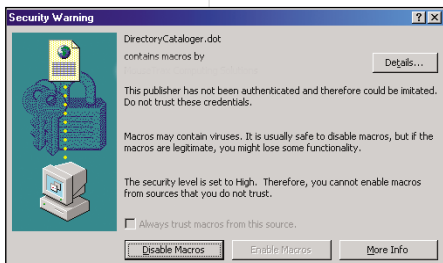
Set the macro security level to High as described above for maximum protection. Open the file or load the **add-in** (a supplemental program that adds custom commands or custom features to Microsoft Office) that contains the macros.

The Security Warning Box or a Microsoft Visual Basic dialog box will appear if the publisher of the macros cannot be automatically authenticated. Otherwise, the macros will be enabled. The Security Warning Box contains information about the macros. The message This Publisher Could Not Be Authenticated will appear in the box if the macros aren't signed by a trusted source.

The box will contain the option Always Trust Macros From This Source if the macro is digitally signed. Select it and then click Enable Macros. The Always Trust . . . option is unavailable if the macro isn't signed, and the macros will not be enabled. Change the macro security level to Medium or Low if you trust the source even without a signature.

Another situation may arise if you try to use a suspicious macro in the workplace. Your computer administrator might have put a security level for your workgroup in place to ensure that you use only macros that he has authenticated as safe. You will have to ask the administrator to allow the new macros.

Check your security settings as described above if you start getting warnings about macros. This will help you balance security against viruses with accessibility. ■



Macros from this company weren't accepted under the High security setting, so the Security Warning dialog box appeared. There is no way to enable the macros under this setting.

BY TOM HANCOCK

# Corel WordPerfect 11

Quick Studies  
How-To

Office Suites

Intermediate

Win9x/Me/  
2000/XP

## Publish To PDF

WordPerfect 10 included a built-in utility that allowed you to export WordPerfect files to Adobe PDF (Portable Document Format) without purchasing or downloading additional software. Publishing to PDF ensures that anyone can view your document exactly as you formatted it.

For version 11, WordPerfect tweaked the PDF utility for better control over fonts, hyperlinks, and output file size. WordPerfect's Publish To PDF function is compatible with Adobe Acrobat versions through 5.0. The WordPerfect installation discs also include Adobe Reader, so you can view the PDF documents you convert.

### Publishing Options

To create a PDF file from a WordPerfect document, open the document and go to the File menu. Scroll down to Publish To. Choose PDF from the options. A Publish To PDF dialog box opens with the General tab, the first of four tabs, on top. The first step is to give the PDF document a name and specify where you want to save it. Click Browse. In the Save As PDF dialog box, locate the drive and folder where you want the file saved. Before you click Save, enter its name in the File Name box.

Back at the Publish To PDF dialog box, you must specify an Export Range from the four available options. Full Document publishes the entire file. Current Page converts only the active page to

PDF. If you want to publish a range of pages, select Pages and enter the page numbers you need. If you need only a small portion published, select that text prior to choosing Publish To PDF and then choose Selection under Export Range.

The next section, Compatibility, refers to the version of Reader required to view the PDF document. WordPerfect 11 offers compatibility with Acrobat Reader versions 3.0, 4.0, or 5.0. When WordPerfect 11 first hit the shelf, it made sense to set compatibility at 3.0 or 4.0 to ensure that more readers would be able to view your PDF. By now, Adobe is up to Acrobat Reader 7.0, so this is no longer much of an issue.

If you want the PDF file's Document Properties to reveal additional information, include the author

and any useful keywords in those fields. Anyone viewing the PDF can see this information within the PDF by choosing File, Document Properties, and then Summary.

### PDF Style

The final choice on the General tab is PDF Style. When you save a document as a PDF file, you choose from three predefined PDF styles. You may also choose to create a new PDF style or edit an existing one—we'll talk about those options in another column. The three styles each apply specific settings to a particular output.

PDF For Document Distribution is best used for documents that will be shared and printed on standard desktop printers. This is the default style and requires Acrobat Reader 4.0 and higher to view. Fonts are embedded and hyperlinks preserved.

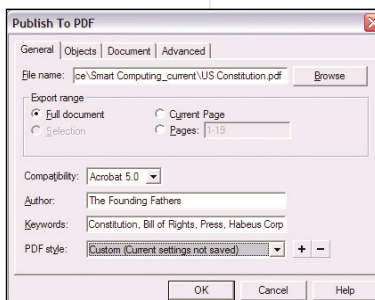
PDF For Editing delivers a higher quality PDF and is optimized for later editing or professional printing. It embeds all fonts and includes hyperlinks, bookmarks, and thumbnails, as well as all images at full resolution. Not surprisingly, this choice creates the largest file size.

PDF For The Web generates the smallest file, but results in compressed text, line art, and bitmap images. It is optimized for viewing on the Web. Most fonts are not embedded, but the substitutions work fine on the Web. If you want a pristine document for printing, choose one of the other options.

### Things To Note

When you've completed the style choices, name your PDF file and click OK. This is where another WordPerfect 11 improvement comes in—a status bar now lets you view the PDF conversion progress. The new PDF won't open automatically, though, so you'll need to go to the drive and folder where it was saved to view it. A double-click should open the document in your own copy of Acrobat Reader, assuming you've installed it.

There's not yet a fix for WordPerfect's inability to render font color changes on the same line of text in PDF documents. Stick to one font color on a single line. ■



Publish To PDF offers multiple options and choices.

BY ANNE STEYER PHELPS

# Microsoft Excel 2002

## Using Macros

Spreadsheet

Advanced

2002 for  
Win9x/NT  
4.0/2000/XP

So you want to be a programmer, eh? OK, maybe not. But even if writing code sounds like a drag, you'd be surprised how much easier life with Excel can be when you learn a little basic programming. We're talking about **macros**, simple programs you create to automate multi-step tasks you perform frequently.

The tasks ripe for automation are nearly limitless, but here's one simple example: Let's say you tend to work in spreadsheets with numerical data formatted with three decimal places. However, you regularly need to insert currency information in a blue-shaded cell, as well as some percentages, which get a red-shaded cell. You never know where you'll need to drop this data in, so you can't just set up certain cells to be ready for this kind of information. That means that when you enter currency or percentage info, you have to format the cells to accommodate that data. Instead of doing it manually, create a macro to do all the formatting when you press one keystroke combination.

### Setting Things Up

Start by choosing Tools, Macro, and Record New Macro. In the Macro Name box, enter a label for the automated process you're about to create. (No spaces are allowed, and the first character must be a letter.) In this example we'll set up a macro to format our currency cells, so let's name it Currency\_Cell\_Macro.

The next box deals with a Shortcut Key, so let's talk about how you can launch a macro. The most common methods are going to the list of macros under Tools, Macro, and Macros and choosing it off a list or creating a keystroke combination that you press to

start the macro. The latter option is more convenient, but remember that you build macro key combos around the CTRL key and another key. (You can mix in the SHIFT key if you want to use a capital letter.) Note that assigning a macro to some combo will override any existing assignments for the combo when the workbook containing the macro is active. So it's not smart to set up a macro using a commonly used key combination. With all that in mind, go to the Shortcut Key box and press the key you want to combine with CTRL to become a macro shortcut combo.

Now you need to store your macro. If you stash it in This Workbook, the macro will work only with the workbook you're currently using. If you store the macro in Personal Macro Workbook, it will work whenever Excel is running.

The description box gives you a chance to note what the macro does. By default, Excel inserts info about when you created it, but it's wise to say something about what it does.

### Record The Macro

Now you're ready to start telling Excel the procedures your macro should carry out. This is no harder than walking through the steps yourself. Just click OK and then go through the steps the macro should imitate. In our case, we right-click a cell, choose Format Cells, choose Currency formatting, and add a blue pattern. Click OK in the Format Cells dialog box.

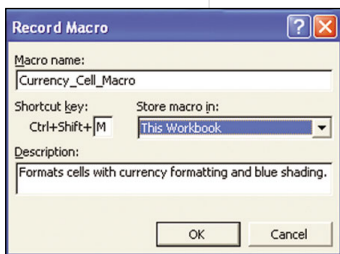
Now go to the little Macro toolbar that has appeared on-screen and click the box. Presto! You just became a programmer!

### Running Your Macro

To run the macro, press the keystroke combination you assigned to it. Or go to Tools, Macro, and Macros; click your macro's name; and click Run.

To get really fancy with your macros, you can do things such as assign them to run when you click shapes in a spreadsheet. You could, for example, insert a large red AutoShape circle with the text Click Here To Format The Active Cell For Hotel Expenses. To connect a macro to the shape, right-click one of the sizing handles on the object and choose Assign Macro. Then on the list that appears, select the macro you've already set up to format cells as your company requires for hotel costs on expense reports. If you format the AutoShape with No Fill and No Line (right-click the shape and go to Colors And Lines), the text appears by itself, working like a hyperlink on the Web.

If you'd like to impress yourself with the programming you just did, take a peek at the exciting Visual Basic code behind your macro. Choose Tools, Macro, and Macros. Click a macro's name on the list and then click Step Into. ■■



Recording a macro may sound daunting, but you just describe it in this box and then carry out the steps you want the macro to imitate.

BY TREVOR MEERS



# Quick Tips

## Secrets For Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

### Memory

**Question:** I just installed a new memory module in my laptop, but once it's installed, the unit won't boot. Is the memory bad, or did I install the module wrong?

**Answer:** Power down the laptop again and try re-installing the memory module. Make sure that it's installed evenly and completely. Also make sure that any other memory modules are still installed properly. If the problem continues, try removing

the new module and see if the system returns to normal. If it does, you can be pretty sure that the new module is faulty.

Memory devices are sensitive to static discharge from your body, so leave the module in its protective antistatic packaging until you're ready to place it in the laptop. Before you touch the module to install it, ground yourself by touching something metal to prevent damage to the module.

### Microsoft Word

**Question:** Word is always changing my document as I type. Is there a way to stop this?

**Answer:** Microsoft Word 2003 supports autoformatting, which analyzes the document and its components and then changes the format to suit established rules. This works fine as long as the autoformatting matches your vision of the document, but autoformatting will often make unexpected or unwanted changes. However, you can work around this.

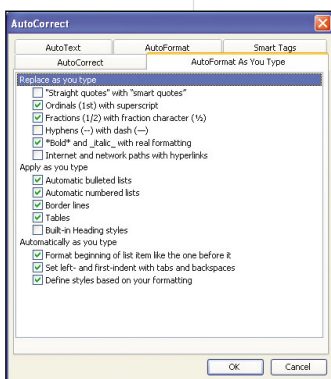
If you see any formatting you don't want (for example, Word turns a URL into a hyperlink), you can simply click Edit and Undo AutoFormat to undo that most recent automatic change. If you'd prefer to disable autoformatting entirely, just click Tools and AutoCorrect Options and select the AutoFormat As You Type tab. Now select or deselect the autoformat options you want and click OK.

### Wireless Networks

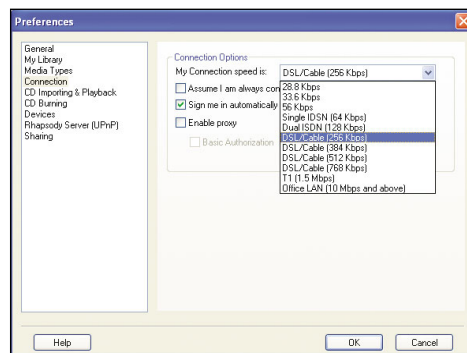
**Question:** Will some better antennas on my wireless router help to extend my range or speed?

**Answer:** Wireless data transfers all depend on signal strength. As the range increases, the signal weakens, so the wireless system slows down the data transfer to maintain its connection. Better antennas can improve the signal strength, allowing for faster wireless performance and/or

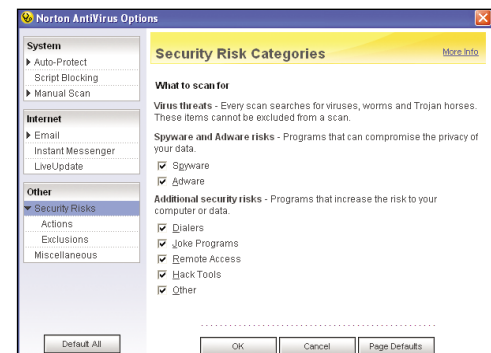
greater wireless range. However, a new antenna must be compatible with your router. Still, just dropping cash into new antennas isn't a guarantee of improvement. And even if there is an improvement, there's no way to tell how much improvement to expect. Try moving your laptop closer to the router and see if the data speeds actually improve noticeably. If so, new antennas might help.



Use the AutoCorrect Options feature to enable or disable Word's automatic formatting actions.



Configure media clients such as Rhapsody to operate at the optimum speed for your current Internet connection.



Tools such as Norton Internet Security 2006 can check for and block spyware and adware from your PC.

## Online Music

**Question:** Is it possible to use music services (such as Rhapsody) with a dial-up Internet connection?

**Answer:** This is very common for laptop users who like to use such services away from their broadband connection, and clients such as Rhapsody ([www.rhapsody.com](http://www.rhapsody.com)) can accommodate a wide range of connection speeds from 28.8Kbps (kilobits per second; dial up) to 10Mbps (megabits per

second; conventional Ethernet LAN [local-area network]). You can tell Rhapsody your preferred connection speed by starting Rhapsody and clicking Tools, Preferences, and Connection and then selecting the appropriate speed from the drop-down menu. Remember that slow dial-up speeds will result in long streaming times, and you might experience disconnections common with dial-up connections, but it will work.

## Speakers

**Question:** Is it better to buy a monitor with or without speakers?

**Answer:** There are trade-offs. Integrated speakers are certainly a convenience: They don't need to be powered separately or painstakingly positioned. But integrated speakers may not offer you the power or sound quality that you can find in good

external speakers. If you're looking for basic business or gaming audio, integrated speakers will likely fit the bill. An audiophile or media enthusiast might opt for the superior sound of external speakers. Of course, speakers should not be the determining factor in your display choice. Always make sure that the display quality will meet your needs before worrying about the speakers.

## Security

**Question:** What is spyware and adware? Is it worth buying security software that checks for things like that?

**Answer:** **Spyware** is software that downloads and installs to your PC and reports information back to a collection point. **Adware** is software that generates pop-ups and other annoying behavior. Spyware is usually considered to be the greater threat because of its secretive operation. There's

no way to know just what information it's collecting or where it's being sent. Adware is typically not as dangerous, but it can still slow your PC. You should consider spyware/adware protection along with standard firewall and antivirus tools. Security software such as Norton Internet Security 2006 can deal with both of those threats by looking for **signatures**—telltale pieces of code that are unique to spyware or adware. Once a suspicious item is detected, it can be disabled, blocked, or eliminated.

## Microsoft Outlook

**Question:** I get lots of meeting requests via Microsoft Outlook, but they're often labeled so badly that I have a hard time remembering what they're for. Can I change the name of a meeting or appointment without having to request a new appointment?

**Answer:** You can easily change the subject of a meeting or appointment in your Microsoft

Outlook calendar by simply double-clicking the appointment. When the Appointment form opens, just erase the poorly worded title and type a more meaningful title into the Subject line. You might take a moment to add some additional notes about the appointment to the detail area. Now click Save And Close. The improved label should appear in the calendar.

## Antivirus Software

**Question:** Is it better to buy new antivirus software when the subscription period expires, or is it better to simply renew the subscription?

**Answer:** It depends on your needs. Renewing an antivirus subscription is typically less expensive than purchasing a new security product, so if cost is your bottom line, renew your existing subscription. However, software is constantly improving,

and new features are added to make the security product more valuable. So it may be worth considering some of the newest products before renewing your old one. For example, if your current security software only handles viruses, but you'd also like to protect against spyware or add intrusion detection, it may well be worth moving to a new product at renewal time and taking advantage of the one-year subscription that accompanies a new purchase.

# Your PC & Music

## A Match Made In Heaven

**Y**ou've probably noticed that digital music has, quite literally, changed the world. Still, many PC users are simply not aware of everything a PC can do with music. These days, various products are available that make it easy to make music a more integral part of everyday life.

### Turn Your PC Into An Ultra-Jukebox

If you haven't yet copied your CD collection to your PC, made it a jukebox, and used the songs to create your own CDs, don't wait another minute. If you have Windows Media Player or iTunes on your PC, you're set. Another good option (it's also free) is Yahoo!'s Musicmatch Jukebox ([www.musicmatch.com/download/free](http://www.musicmatch.com/download/free)). With any one of these free programs, just connect to the Internet and put an audio CD in your drive—the program should automatically identify the CD and copy the songs, properly named and tagged, to your hard drive. This library will allow you to set up customized playlists for listening

to your own mix of songs. You can then burn these mixes to CD.

You get even more capability by upgrading to Musicmatch Jukebox Plus 10 (\$19.99) or similar software, such as Magix mp3 maker 10 deLuxe (\$29.99; [www.magix.com](http://www.magix.com)) or Cakewalk Pyro 5 (\$29 [download]; [www.cakewalk.com](http://www.cakewalk.com)). Additional features may include slideshow visualizations, advanced format conversion, enhanced tagging, CD-label printing, audio editing, and special effects.



### Amateur Music-Making

If you're an amateur musician interested in making your own music, an investment in the right tools will take you to new levels of creative enjoyment. Cakewalk's USB Music Pack (\$49) is an excellent place to start—it lets you use your PC to capture, record, compose,

orchestrate, synthesize, mix, arrange, transpose, edit, master, produce, play, burn, share, and enjoy your own music. It comes with the software (Music Creator 3) and hardware (a USB MIDI [Musical Instrument Digital Interface] device) that you use with an electronic MIDI keyboard to capture whatever you play on the instrument in editable form on your PC. You can then display and manipulate music.

For a remarkably small investment, coupled with a willingness to devote the time it takes to learn how to use your new PC tools, you'll be ready to move your music-making pleasure to a new level.







## Learn To Sing

If you enjoy singing and would like to use your PC as a voice tutor, take a look at SingingCoach Unlimited (\$99.95; [www.carryatune.com](http://www.carryatune.com)) from Carry-A-Tune Technologies. This product analyzes your vocal range and plays back songs tailored for your range, and while you sing along, it gives you real-time feedback on your performance, helping you see and hear where you might be off pitch, rhythm, or tempo. Whether you're a beginner or an expert, SingingCoach makes improving your singing a fun and productive experience.

## Cell Phone Ringtones

Have you ever wished you could identify your cell phone's distinctive ring immediately, rather than wondering if it's your phone or someone's nearby with the same default ring? You could use a customized ringtone—and the good news is that it's not as tough as you might think. Your PC will let you convert a clip from a digital song into an instantly recognizable ringtone that



will let you know that it's your phone that's ringing, not some stranger's. There are dozens of programs you can use to convert your music files into ringtones: Try the free [www.tonethis.com](http://www.tonethis.com) to see if your phone is supported. If not, go for the \$19.95 Xingtone Ringtone Maker ([www.xingtone.com](http://www.xingtone.com)), which supports almost all phones and carriers and lets you make unlimited ringtones.

## Hear The Music

It's important to make sure your PC is equipped with high-quality gear. Sound cards from Creative Labs are always a safe bet, and when you want your music to be a private, quality experience, convenient wireless headphones such as those from Sennheiser are a good choice.



What To Do When . . .

# The DELETE Key Won't Work

## In Microsoft Word



One benefit of word-processing programs such as Microsoft Word is that we can quickly erase our mistakes, misspellings, and poorly written sentences by pressing the DELETE button. Truth be told, we rely on it every time we sit down at the keyboard.

So if the all-important DELETE key stops working, or appears to have stopped working, we realize the urgency of solving the problem. Here are some ways to bring the DELETE key back to life.

### Delete The Right Way

We use certain keys on the keyboard so frequently that we don't even think about how we use them. We form habits for inputting, moving, and deleting text with certain keys while ignoring other keys that perform the same tasks.

For instance, some users erase text primarily by highlighting the words and then pressing either the DELETE or BACKSPACE key.

However, when they attempt to delete text one character at a time, they may forget that DELETE and BACKSPACE keys work opposite from one another. To use the DELETE key, the cursor must be to the left of the character you want to erase. To use the BACKSPACE key, the cursor must be to the right of the

character. It would be easy to confuse these two keys and assume one of them isn't working when, in fact, you're just using the key improperly. You can't delete text just by pressing DELETE if the cursor is to the right of the last typed character or space in the document.

### Check FilterKeys Settings

Changing FilterKeys settings (in Windows XP, go to Start, Control Panel, Accessibility Options, and the Keyboard tab) is one of several ways that users can modify keyboard strokes to make using their keyboard easier. These settings help users whose fingers may not be as quick and thus rest too long on one key, resulting in multiple—but unintended—keystrokes.

FilterKeys settings don't disable the DELETE key, but they can make it seem as if the key isn't working correctly, especially if these settings are turned on and you don't know about it. To see what we mean, in the FilterKeys section, select the box next to FilterKeys and then click Settings. Under Filter options in the next dialog box, click the Ignore Repeated keystrokes option.

In the practice area on this screen, you can see for yourself how this setting alters the way the DELETE key and other keys work. When this setting is on, you cannot press and hold

down the DELETE key to erase multiple characters. Instead, you need to press the DELETE key one stroke at a time, slowly, to remove text from your screen.

The settings in FilterKeys override any settings you create for keystrokes with the Keyboard section of the Control Panel. So if you're having trouble with a slow-working DELETE key, check the settings under Accessibility Options to make sure they haven't been turned on.

### Reset The Keyboard

Microsoft Windows comes with predefined shortcut keys, such as CTRL-ALT-DELETE for opening the Windows Task Manager to, among other functions, shut down a non-responsive program. Word has predefined shortcut keys, as well, such as CTRL-B to create bold text. However, using the Customize Keyboard screen, you can create new shortcut combinations.

If pressing DELETE leads to another action besides erasing characters or results in nothing at all, it may be time to reset the keyboard, so it returns to all the default shortcut combinations. In Word, click Tools and

When this setting is turned on, you can use DELETE as you normally would to erase single characters, but if you highlight a block of text and press DELETE, a Delete Block? message will appear in the status bar at the bottom of your screen. If you don't know this WordPerfect setting is turned on, you might think your DELETE key isn't working properly.

### Check The Other DELETE Key

As mentioned, user preferences play a big role in how often keys on a keyboard are pressed. Though keyboards have two DELETE keys, many users employ only the one found under the INSERT key and to the left of the END key. The other DELETE key is on the number pad.

As is the case with many of the keys on the keyboard, the DELETE key here has a dual function. When the NUM LOCK function is turned on, the DELETE key is actually a period key. When the NUM LOCK key is off, the DELETE key works just like the main DELETE key we've been discussing.

If you primarily use this DELETE key and find it isn't working, remember that the solution may be as simple as pressing NUM LOCK. (Pressing the NUM LOCK key will not affect the use of the other DELETE key.)

### A Tough Case To Crack

We've presented a number of ways you can troubleshoot an improperly functioning DELETE key in Word. If you find that the DELETE key is causing you problems no matter what program you're working in, the problem is most likely hardware-related.

That's your chance to crack open your keyboard to see if the problem lies within. Or spare yourself the mess and purchase a new keyboard. It's one of the most affordable pieces of hardware you can buy. ■

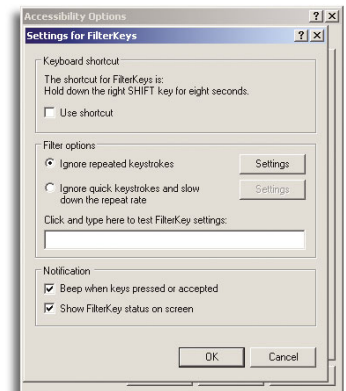
BY RACHEL DEROWITZCH

Customize and then click the Keyboard button at the bottom of the dialog box. (It doesn't matter which tab is displayed on this screen.)

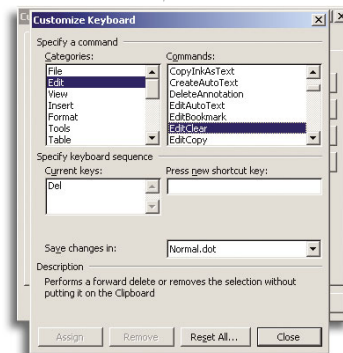
On the Customize Keyboard screen, click the Reset All button. You'll be asked if you want to clear all the key assignments for macros and styles in your master Word template—called Normal.dot—the default format for all new documents. Click Yes to reset all of these. Or if you don't want to undo all the styles or macros you've created over time in this template, click No and scroll through the shortcut key assignment, if one has been made, for each command in all the categories on the Customize Keyboard screen. Then you can modify only the key assignment that is affecting the DELETE key.

### Turn Off The WordPerfect Setting

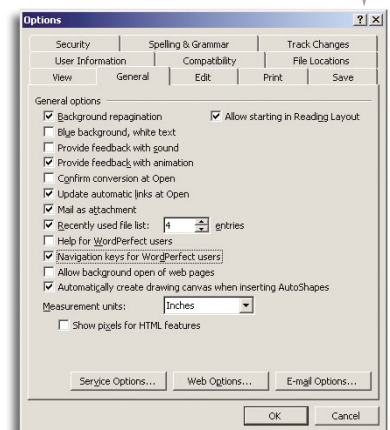
Word contains a couple of tools that assist users who are accustomed to using Corel WordPerfect. You can find them by clicking Tools and Options and then selecting the General tab. If you select the Navigation Keys For WordPerfect Users option, that changes the function of some of the keys, including DELETE.



Turning on the FilterKeys settings drastically slows down the DELETE key.



The Customize Keyboard tool can change the function of default keyboard shortcuts, including the DELETE button.



When the WordPerfect navigation keys setting is turned on, the DELETE key can't erase a block of text unless you answer a prompt first.



# Examining Errors

BY JEFF DODD

**Problem:** A Windows XP SP2 (Service Pack 2) user reports he periodically receives a Java error pertaining to Windows' installer package.

**Error Message:** "Cannot load Java Runtime Environment. Error 1722. There is a problem with this Windows Installer package. A program run as part of the setup did not finish as expected. Contact your support personnel or package vendor."



**Solution:** The JRE (Java Runtime Environment) is the software platform on which Java applets execute commands and perform functions. It is a necessary part of any system that wants to run Java applets. In this case, the reader's computer is unable to load the JRE, making it impossible for the computer to run Java software.

The solution is to remove the troubled JRE and replace it with a new, uncorrupted one. The reader can uninstall the JRE simply by opening the Add Or Remove Programs tool, selecting Java Runtime Environment (it may be labeled as Java 2 Runtime Environment SE, J2SE Runtime Environment, or something similar), and clicking the corresponding Remove button. He should repeat the process if necessary to remove multiple JRE installations. When the process is complete, the reader should reboot his PC.

The next step is for the reader to obtain the latest JRE and install it on his system. He can do so by visiting [www.java.com/en/download](http://www.java.com/en/download) and clicking the Manual Download link. On the resulting page, he should locate the Windows (Offline Installation) option and click its corresponding Download button. The reader can follow the on-screen instructions to save the file on his system, and when the download is complete, he should double-click the file to launch the installation.

To complete the installation, the reader should just follow the on-screen instructions. For best results, he should opt for a custom installation and change the default installation location from C:\PROGRAM FILES\JAVA to any other location on the Windows drive. Finally, he should restart his browser and go to [www.java.com/en/download/installed.jsp](http://www.java.com/en/download/installed.jsp), where he can verify that the installation was a success. The error should be gone for good after that.

**Problem:** A reader receives an error message followed by a major system slowdown. The problem seems to disappear if he disconnects his Visioneer OneTouch 9000 scanner (and reappears when he reconnects the scanner). He has tried reinstalling the scanner to no avail. He also has scanned his system for viruses and spyware.

**Error Message:** "Generic Host Process for WIN32 Services has encountered a problem and needs to close. We are sorry for the inconvenience."

**Solution:** The reader's symptoms closely resemble those associated with a known conflict between WinXP and

various HP scanners. That problem is resolved by obtaining and installing the latest drivers for the HP scanner, and we suspect a similar solution will work here.

The reader should turn off his computer and disconnect his scanner. After rebooting his system, he should visit Visioneer's Web site ([www.visioneer.com](http://www.visioneer.com)), access the Support page, locate the latest driver for his OneTouch 9000 scanner, and download the driver to his computer. The reader then should locate the driver file on his system and double-click it to launch the installation.

When the installation is complete, he should reconnect the scanner to his system. Hopefully, the error message will be gone for good.



**Problem:** A reader frequently receives an error message when she boots her PC. When the message first appeared several months ago, it prevented her from accessing the rest of her system, so she hired a repair technician, who reinstalled WinXP SP2. Even though the error message still appears, she can now click OK to close it and proceed with her computing. The reader has checked for viruses and spyware.

**Error Message:** “Registry Recovery Error. One of the files containing the systems registry data had to be recovered by use of a log or alternate copy. The recovery was successful.”



**Solution:** This annoying problem is most likely caused by corruption in the Registry. Where exactly the corruption occurs is unclear. The reader did the right thing by scanning for viruses and other malicious code. Because that didn't resolve the issue, however, she needs to take more aggressive measures.

Normally, we would recommend using System Restore to restore the Registry settings that predate the error. We also would recommend using the Add Or Remove Programs tool to uninstall all Windows updates. But in this situation, we lack faith in these fixes primarily because we lack faith in the repair technician. We don't know what type of maneuvers he performed, and we remain skeptical of his claims to have reinstalled WinXP. A clean reinstall, performed properly, should have eliminated the error.

For this reason, we suggest that the reader delete her current partition and reinstall Windows. She can start by backing up her important data files. Next, she should insert her WinXP installation disc—ideally, this is the disc with the original version of WinXP, not WinXP SP2—in the computer's optical drive and reboot the PC. She can follow the on-screen instructions to delete her

current partition, reformat it, and install the OS (operating system). If at any point she receives the option to perform a Windows repair, she should disregard it and continue with a complete system setup.

When the installation is complete, she should reboot the system and check it for errors. The Registry Recovery Error should not occur. We advise her to keep her system in this clean state for several days (if possible) before installing software on it. After rebooting several times over an extended period without encountering error messages, she then should install WinXP's SP2. After doing so and rebooting, she should maintain her system in this state for several days, rebooting each day.

If the error doesn't appear during this time frame, she should use System Restore to set up a restore point and begin installing other Windows updates and third-party software (from trustworthy sources, of course). She should reboot and set a new restore point after each installation, waiting a few days between installations. If she encounters the Registry Recovery Error during any of these steps, she should uninstall the most recent addition and revert back to the last known good restore point.

**Problem:** When a reader sends an email message, he receives an error message back indicating that the email address doesn't exist, but he knows for sure that the address is correct.

**Error Message:** “Mailer Daemon. The email address does not exist.”

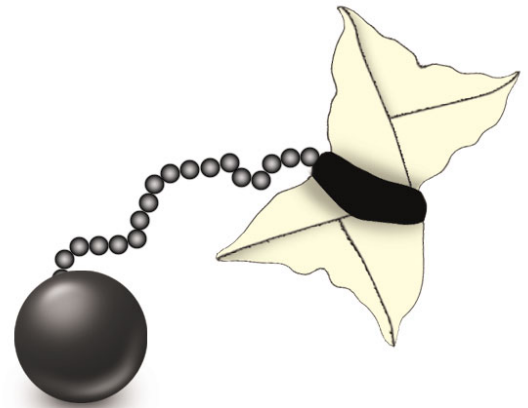
**Solution:** Mailer daemons come in a number of different formats, but they all reiterate the same message: An email was undelivered. The reasons for a failed email delivery are many: Perhaps the user typed the address incorrectly, maybe the destination inbox is too full to accept

new messages, or maybe a mail server malfunctioned.

In this case, however, we suspect the reader's messages are running into a mail filter that is configured to reject them. The filter may reject messages because they come from a particular address or domain, or perhaps it rejects them because they *don't* come from a particular address or domain, or maybe it rejects them because of the content of the message or Subject line.

The reader's best recourse is to contact the intended recipient—not by email, obviously—and ask him or her to reconfigure the filter settings so that the reader's messages get through.

That way, if the recipient *really* wants to receive messages from the reader, he or she will take the steps needed to make sure the filter is set properly.



Have questions about an error message you've seen? Send us your message (errormessages@smartcomputing.com), and we'll try to decipher it. Tell us what version of Windows you're using, give the full text of the error message, and provide as many details in your explanation as possible. Volume prohibits individual replies.

# Fast Fixes

## Security Update For Outlook 2002

**Problem:** Microsoft has identified a flaw in Outlook 2002 that could let a hacker execute damaging programs on your PC when you open a malicious file.

**Resolution:** Download and install this 2.7MB file to update your software. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB905649** in the Search text box and click Go. Click the link named Security Update For Outlook 2002 (KB905649), and on the next page, click Download. After the transfer is complete, double-click the file (Officexp-KB905649-FullFile-ENU.exe) to begin the installation process.

[www.microsoft.com/downloads](http://www.microsoft.com/downloads)

## Security Patch For Windows XP

**Problem:** Microsoft has found a vulnerability in WinXP that could let a hacker take control of your PC.

**Resolution:** Download and install this 477KB file to patch your operating system. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB914798** in the Search text box and click Go. Click the link named Security Update For Windows XP (KB914798), and on the next page, click Download. After the transfer is complete, double-click the file (WindowsXP-KB914798-x86-ENU.exe) to begin the installation. After you install this component, you might have to restart your computer.

[www.microsoft.com/downloads](http://www.microsoft.com/downloads)

## Security Update For Word 2000

**Problem:** Microsoft Word 2000 has a security problem that hackers may use to damage or steal your data when you open a rigged document.

**Resolution:** Install this 4MB file to update your copy of Word. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB905553** in the Search text box and click Go. Click the link titled Security Update For Word 2000 (KB905553), and on the next page, click Download. After the transfer is complete, double-click the file (Office2000-kb905553-fullfile-enu.exe) to begin the installation process.

[www.microsoft.com/downloads](http://www.microsoft.com/downloads)

## Outlook 2003 Update

**Problem:** You encounter problems in Outlook 2003 when you use the CreateItemFromTemplate method to create a form programmatically.

**Resolution:** Download and install this 8.6MB file. To download the file, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB913807** in the Search text box and click Go. Click the link titled Update For Outlook 2003 (KB913807), and on the next page, click Download. After the transfer is complete, double-click the file (Office2003-KB913807-FullFile-ENU.exe) to begin the installation process.

[www.microsoft.com/downloads](http://www.microsoft.com/downloads)

## SafeDisc WinXP Fix For Microsoft Games

**Problem:** When running a restricted user account with Fast User Switching in WinXP, some games do not launch properly: The game will prompt you to insert the disc, even if you've already done so.

**Resolution:** Download and install this 185KB patch. To download the file, type the URL we listed below in the Address field of your browser. After Microsoft's Download Center page loads, type **Safedisc Windows XP fix** in the Search text box and click Go. Click SafeDisc Windows XP Fix For Microsoft Games, and on the next page, click Download. After the transfer is complete, double-click the file to begin the installation.

[www.microsoft.com/downloads](http://www.microsoft.com/downloads)

## Fix Of The Month

### Cumulative Updates For Windows 2000 Service Pack 4

**Problem:** You haven't installed all of the previously recommended updates for Windows 2000 Service Pack 4.

**Resolution:** Download and install this 1.2MB file to update Win2000. To download the update, type the URL we listed below in the Address field of your browser window. After Microsoft's Download Center page loads, type **KB885912** in the Search text box and click Go. Click the link named Update For Windows 2000 (KB885912), and in the Validation Required box, click Continue. Follow the instructions for validating your copy of Windows. In order to complete this process, you'll have to install a file from the Microsoft site. Once you've validated Windows, click Download. After the transfer is complete, double-click the file (Windows2000-KB885912-x86-ENU.exe) to begin the installation process.

[www.microsoft.com/downloads](http://www.microsoft.com/downloads)





*Need help with your hardware or software? Looking for simple explanations on technical subjects? Send us your questions!*

Get straight answers to your technical questions from *Smart Computing*. Send your questions, along with a phone and/or fax number, so we can call you if necessary, to: *Smart Computing Q&A*, P.O. Box 85380, Lincoln, NE 68501, or email us at [q&a@smartcomputing.com](mailto:q&a@smartcomputing.com). Please include all version numbers for the software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)



**This Old Computer**

**Q** I have a five-year-old IBM Aptiva 500MHz Pentium III running (well, initially) Windows 98 SE (Second Edition). It crashed, and some guru friends diagnosed it as having a faulty/failed hard drive. I replaced the drive with a Western Digital 120GB model, but after inserting Western Digital's Data Lifeguard Tools CD, a message appeared on-screen that said: "No operating system." I inserted the IBM Aptiva Product Recovery And Diagnostics CD, and the "Invalid System Disk" message displayed. I tried using a Win98 Startup floppy diskette I had made on Feb. 3, 2005, and I tried using a Basic Rescue Boot floppy I made on the same date via my Norton AntiVirus program, but whenever I went back to the Aptiva CD, I always saw the "Invalid System Disk" message appear on-screen. I took the computer back to my guru buddies who tried various things, and at one point, an "Invalid partition table" message displayed. They concluded there was a hidden partition on the old drive with some information on it that's now missing, which is preventing me from accessing the CD. I had called IBM's tech support department previously, but all its representative could do was tell me that the Recovery And Diagnostics CD had everything on it, including Win98. While on the phone with IBM, the rep asked me to try several routines again, but they all ended with negative results. She was sympathetic but said IBM no longer has

OEM (original equipment manufacturer) installation discs for Win98. Can you help me? I have purchased a new PC, but I'd still like to get the old computer running so I can create a home network, even if I can only use it for word processing, spreadsheets, and games.

**A** Your "gurus" are correct in their diagnosis. In the past, IBM has used a special hidden partition on its hard drives to store BIOS (Basic Input/Output System) information. Although this might have saved IBM a small amount of money per computer, it's caused a lot of grief for users in situations similar to yours. Without this partition, there's no way for the computer to properly boot. And it's during the boot cycle that the computer recognizes any peripherals, such as your CD-ROM drive and even your new hard drive.

The only way around this conundrum would be to install the new drive in your new computer and then run the Recovery CD in the new computer. Then you can use the Recovery CD to transfer the missing BIOS components onto your new hard drive. When you finish this step, you can reinstall the new hard drive into your Aptiva computer. At this point, the Aptiva computer should be able to boot properly, and you should be able to perform a complete recovery from the Product Recovery And Diagnostics CD.



**Windows**

**Q** I find the Windows update process mysterious. Occasionally, a flag message appears above my System Tray to tell me my system's updates are ready to be downloaded. (I have Windows set to notify me but not to automatically download and install updates.) How does Microsoft know I'm here?

I have DSL (Digital Subscriber Line) and a software-based firewall (Zone Labs' Integrity Client),

and I recently installed a router that includes a firewall. I thought I was "invisible," but these notifications still seem to find me most of the time. If I'm able to open the flag message before it disappears, I can tell it to download the updates and install them, but sometimes the flag just fades away before I can provide further instructions. And when I do give permission to download and install updates, I'm often not sure when it's

finished. What's going on? I always select "custom," so I can see what's being installed, but I'm not sure how far back it goes. Does it detect what's already been downloaded and installed and then just offer me new stuff?

**A** Windows Update is a program that runs on your computer and manages the vast number of patches and updates issued by Microsoft. Windows Update does this by periodically contacting Microsoft's site to see if there are any updates available for Windows or other Microsoft software. Windows Update scans your system for existing updates and only downloads and installs new updates.

There are four general settings for Windows Update: automatically download and install updates; download updates but let user choose when to install them; notify user but don't automatically download or install updates; and disable automatic updates.

When you configure Windows Update to the Automatic setting, it will automatically download and install recommended updates for your computer and install them behind the scenes. This is the setting we recommend for most users. With Windows Update set to Automatic, there's little chance that you'll miss out on an important security update or forget to install updates. We also recommend having Windows check for new updates on a daily basis.

For users who like to monitor each and every change to their computer, having Windows Update download but not install updates gives you the chance to review each update and make sure that you want to install it. You'll be

notified when Windows Update has a new patch or update to install.

The settings that either notify the user about updates or disable automatic updates are options we can't recommend in good conscience. With the number of vulnerabilities that appear daily, keeping your Windows installation up-to-date is extremely important.

Sometimes Microsoft issues a patch or update that has a deleterious effect on your computer. This occasionally happens despite its staff's best efforts at testing the updates. So if you have a notification to install Update XYZ and you wait a day to manually install it, there's a good chance that Microsoft might have replaced it with an improved update, and that might explain why the notifications seem to disappear.

You also can manually install updates by visiting [update.microsoft.com/windowsupdate](http://update.microsoft.com/windowsupdate), which is handy when a new update is available, but Windows Update hasn't downloaded it yet. When you click Install Updates, a download window will open, displaying the progress of your download and installation. You can review its progress in the Installation Status portion of the download window. Some updates may require you to restart your computer to finish the installation process.

Overall, Windows Update is a vital tool in keeping your computer safe from vulnerabilities that can allow a cracker to attack your computer. Combined with a good firewall, antivirus software, and antispyware, your computer should be safe from most of the prevalent threats on the Internet.



## Online

**Q** Every time I start Quicken Deluxe 2005 on my Dell Dimension 8100 computer (running WinXP), ZoneAlarm Pro reports: "Quicken Launcher is trying to monitor your mouse movements & keyboard strokes." Should I trust Quicken? Should I download Quicken updates even if I don't need the improvements they provide?

**A** The message you're receiving from ZoneAlarm is a common one for Quicken users. There's no need for concern, as ZoneAlarm is just being hypersensitive. ZoneAlarm can often trigger an alert for this type of thing, depending on the version of Quicken you're using.

As to whether you should download and install any updates Quicken provides, our recommendation is yes. Software vendors such as Quicken's developer, Intuit, typically release updates for several reasons: to fix known bugs, to improve stability, and to improve security.

If you choose not to install an update, you may be hampered in obtaining support from Intuit in the future. One of the first things software vendors ask when you initiate a support call is whether your software is up-to-date. However, before you install any new software—which includes updates—make sure you have a good backup of your data.



## Hardware

**Q** I back up an extensive number of images and movie clips onto recordable DVDs. I burn the media with Roxio Easy Media Creator, and I make sure they have burned correctly by playing and reviewing them. However, much to my disappointment, I have found that over time, some images and clips can't open or play back at all. The drive struggles to find the files and then crashes. What causes recordable DVDs to become unreadable over time? What precautions should be taken to preserve the stored data?

**A** Although backing up data to optical media (regardless of whether they're CDs or DVDs) is a good strategy for short-term storage, the verdict is still out as to whether it's an effective strategy for long-term storage. There are many reasons for this debate, but most center around the sensitivity of the storage medium to damage.

It's important to remember that a DVD or a CD burned using a home computer system isn't the same as one manufactured by a movie studio or software publishing house. Discs created by these businesses use a process of pressing the disc together, so the discs have a much higher longevity.

Discs burned on home computers, however, use a special laser that activates a dye substrate

within the disc itself. As the laser activates the dye, it encodes your data in a digital format that's readable by the drive. This dye is susceptible to various environmental conditions that can cause it to degrade faster than you would expect.

The first step in making your recordable DVDs last a long time is to purchase quality media. The lowest priced media usually means that the manufacturer has cut costs somewhere, often by using inferior dyes or not following best practices during the manufacturing cycle. Our recommendation is to purchase media from a well-known vendor, such as Verbatim, and avoid the "no-name" brands. According to NIST (National Institute of Standards and Technology), for archival storage you also should look for media that has a gold metal reflective layer.

In addition, you can improve the life of your discs by proper handling and storage. Handle your DVDs with care, store them in their cases in an upright fashion, and keep them out of direct sunlight. High humidity also can cause discs to degrade prematurely. Surprisingly, fingerprints and smudges can cause more damage than scratches. If they're properly cared for and DVDs of a higher quality, NIST says they should be able to last for 30 years.



## Multimedia

**Q** Help! My iPod mini was working fine, but now I hear a tremendous amount of static while playing music. I've treated it well, so I don't know how this happened or what I'm doing wrong. I've even tried using different headsets, but I still hear a lot of static.

**A** Unfortunately, you're not the first one to experience this problem with the iPod mini. Since its introduction in 2004, there have been numerous reports of problems with static when using the iPod mini's headset connector. Usually these iPods have no problem playing while connected to a computer, but they do seem to experience static that's induced by their headset connector.

Resolving this problem depends on two factors: when you purchased your iPod mini and if you purchased AppleCare. Apple includes one year of warranty coverage on the iPod mini, and

this issue is one that should be covered by that warranty. You also can purchase the AppleCare Protection Plan for iPod for your iPod mini during its warranty period. By purchasing AppleCare for your iPod mini, you're simply extending the warranty period for an additional year. The AppleCare Protection Plan for iPod service currently costs \$59. If your iPod mini is still under warranty, you can request service for it by calling (800) 275-2273, and Apple will repair your iPod mini free of charge.

Unfortunately, if your iPod mini is out of its warranty period, repairing it through Apple is probably not the best solution. The fee for out-of-warranty repair will exceed the price of a new iPod mini, and you'll still be lacking any warranty in the event you have additional problems. Our recommendation would be to purchase a new iPod with the extended AppleCare warranty coverage.





## Hardware

**Q** I'm confused about how hard drives are connected to PCs. I've heard about IDE, master/slave, and SATA, but I don't know how they all fit together.

**A** Computers use a bus system to transfer data from storage devices such as hard drives and optical drives. The most common bus in use is the IDE (Integrated Drive Electronics), followed by SCSI (Small Computer System Interface), and then there's the newcomer on the scene: SATA (Serial Advanced Technology Attachment).

All three of these standards allow computer manufacturers to design and build storage peripherals that work interchangeably. As long as your computer supports IDE, it doesn't matter if the peripheral is made by Seagate, Maxtor, IBM, or any other hard drive manufacturer.

Each of these bus systems is integrated into your computer's motherboard. In the case of IDE devices, a ribbon cable is used to attach the IDE device to the motherboard. There is an 18-inch limit to the length of this cable, and only two devices can be attached to a single cable or interface. Most motherboards provide two IDE interfaces, enabling you to connect up to four of these devices to your computer.

However, using multiple devices on a single interface poses a unique problem when using IDE. Because IDE devices have all the control circuitry integrated into the drive (hence the name), there's no master controller on the motherboard that's able to coordinate the transmission of data. Instead, the two devices use either a master/slave configuration or Cable Select.

In a master/slave configuration, the master drive is used to control data transfers from the two devices on an IDE interface. Configuring two hard drives to use master/slave settings involves connecting the master hard drive to the end of the IDE cable and connecting the slave hard drive to the middle connector on the cable.

Plus, users need to adjust small jumpers on each drive to designate one as the master and the other as the slave. These jumpers are small pieces of plastic and metal that function as switches on a hard drive.

When data is requested from the slave hard drive, it will query the master drive to

see if the interface is already in use. If so, it will wait a short time and then query the master hard drive again. Eventually the master drive will grant the slave drive permission to send data to the motherboard across the IDE interface.

In addition to the master/slave configuration, there's also Cable Select to consider. In theory, Cable Select works similarly to the master/slave arrangement, but a hard drive's position on the IDE cable and its jumper settings aren't as crucial.

Simply connect the hard drives to a Cable Select-compatible IDE cable—in any order—and then set the jumpers on both devices to Cable Select. Instead of relying on the end position on the cable to determine the master hard drive, Cable Select uses its cable design to designate a master and corresponding slave device.

As we mentioned previously, the newcomer to this area of computing is SATA. As the successor to IDE, SATA does away with many of the legacy problems associated with the older interface design. With SATA, there can be only one hard drive per controller, and each has its own dedicated cable and bandwidth.

In addition, SATA interfaces are much faster than those available from IDE; in comparison to IDE's maximum rate of 133MBps (megabytes per second), SATA interfaces can communicate at rates from 150MBps to 600MBps.

The SATA standard also eliminates the bulky ribbon cables used by IDE interfaces. Instead, SATA uses slender cables that can improve the overall airflow within the computer's case. These cables can be as long as 1 meter in length, which allows computer manufacturers greater freedom in how they position hard drives within their computer's chassis.

SATA devices also use different power connectors than IDE devices use. These newer connectors enable SATA devices to be **hotswapped** (connected and disconnected while the computer is still running)—yet another advantage.

In comparison, attempting to hotswap an IDE device will usually crash your computer—and possibly damage any data on the device.

# Frequently Asked Questions

Answers to users' most common questions about  
**802.11n**

## FAQ What is 802.11n, and what do I need to get it working in my home? Is it compatible with my existing 802.11g wireless devices?

802.11n is the newest wireless networking standard currently being evaluated by the IEEE (Institute of Electrical and Electronic Engineers) organization. The goal of industry groups supporting 802.11n is to provide a wireless throughput of more than 100Mbps (megabits per second)—as a real-world measurement, not a theoretical one. That's about twice as fast as today's 802.11g standard, which has a throughput of 54Mbps, and will finally place wireless networking speeds on par with wired 10/100Mbps Ethernet networks.

Of course, to achieve 802.11n throughput rates, you'll need 802.11n-compliant devices. At a minimum, this means you'll need an 802.11n NIC (network interface card) in your laptop, along with an 802.11n wireless router (or access point) attached to your broadband cable or DSL (Digital Subscriber Line) service. Remember that your network will only go as fast as the slowest component within it, so adding an 802.11n NIC to a laptop won't buy you anything if your older 802.11g wireless router can only achieve up to 54Mbps.

However, unless you have 802.11a devices, you don't need to upgrade *everything* in your home or small office. Most 802.11n devices are backward-compatible with existing 802.11b and 802.11g devices (but aren't compatible with 802.11a devices), so the older 802.11b/g devices can still communicate with the newer 802.11n devices—just at their slower rates—so you may only need to upgrade the wireless router (or access points) and any laptops that need higher throughput rates.

## FAQ What's the difference between 802.11n and other labels, including "pre-n," SRX, and Super G?

The problem with 802.11n is that the IEEE hasn't yet ratified it as a standard. Although the IEEE is working on the process, many in the industry don't expect the standard to be accepted until the end of 2006 or early 2007. Wireless device manufacturers can't sell "802.11n" products until the standard is finalized, but because they know how to get better wireless speeds today, you'll find several pre-n wireless devices, along with a variety of proprietary speed-boosting products with names such as SRX (Speed and Range eXpansion) or Super G.

Linksys uses the SRX label, whereas NETGEAR employs the Super G moniker. Both companies are using advanced chips and multiple antennas to achieve greater speed and range than current 802.11g products. As with any new technology, however, you only get the speed and range benefits of SRX or Super G when used with other compatible products. Thus, the difference between 802.11n and other early adopters, such as pre-n, SRX, and Super G, is that each approach is proprietary—and not necessarily compatible—with the others. That's why standardization is needed: To ensure that every product in that category will work together. For now, once you pick a manufacturer, you're basically locked in to using only products from that manufacturer until IEEE standardizes 802.11n.

There are two main technological approaches used to achieve the speed and range of 802.11n, but the IEEE can only approve one method in the final 802.11n standard, and this will create a problem for some of the users who already purchased pre-n products. Some users might find that their pre-n products work perfectly with other pre-n products from the same manufacturer but aren't compatible with pre-n products from other manufacturers; what's worse is that their pre-n products may not be compatible with the final 802.11n standard.

## FAQ Will I need new Windows drivers for 802.11n wireless devices?

External 802.11n devices, such as wireless routers, most likely won't require drivers for individual client PCs. Newer OSes (operating systems), such as Windows XP, will generally support new 802.11n NICs without needing new drivers, but chances are that you'll have the option to install management/configuration utilities that are bundled with specific devices. In most cases, though, WinXP will easily handle new wireless devices, so go ahead and try the new NIC on your PC before worrying about installing new drivers. But if you can't get top performance with native Windows control, try installing the manufacturer's management utility.

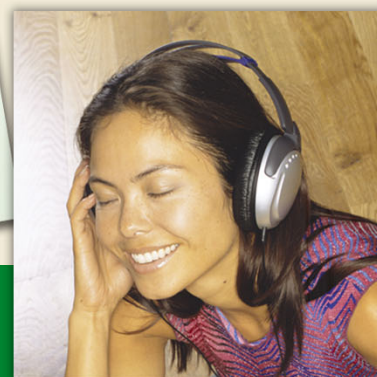
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# Alienware Woes & Missing Manuals

*I received my new Alienware system on Feb. 7 and was in gaming heaven until Feb. 10 when my problems started. After receiving an error message, I could not get my system to boot. Alienware technical support walked me through some diagnostics and eventually determined that I needed to reinstall Windows. Unfortunately, I did not receive a Windows CD with my system. The rep told me he'd send a CD overnight, and I'd have it in a few days at the latest. When the disc didn't arrive, I contacted Alienware, and the rep told me that I should have the disc within seven days. The rep denied my request to speak to a manager, claiming they were all in a meeting. I called the next day to complain, and this time, the rep was very apologetic and promised to overnight a disc to me. I called Alienware early the next week after not receiving the disc. This time, the rep informed me that Alienware couldn't have shipped anything the previous week because the mailroom was closed. The rep also mentioned that Alienware doesn't overnight anything and can only send items via two-day mail. Once again, no manager was available to speak to me. When I said I wanted to return the system, the rep told me I'd have to pay a 15% restocking fee (which would come to about \$580). I called back the next week, and this time, the rep said Alienware had shipped a disc on Feb. 18. Several days later, I still have not received the disc and seem to be getting nowhere with Alienware.*

Steven Grassel  
Hemet, Calif.  
.....

We emailed our PR contact at Alienware several times, and despite assurances, no one from Alienware ever contacted Steven to help resolve the issue or even address his concerns. Meanwhile, Steven continued to call Alienware inquiring about the disc. Steven ended up receiving three Windows XP Pro discs from Alienware over three days in early March, but according to Steven, none of the discs had a postmark before March 2. After

reinstalling Windows, Alienware determined that the real problem was a bad memory card. Despite Steven's previous problems with Alienware, the company would not ship out a new module before it received the old one (unless Steven was willing to charge the memory module to a credit card and wait for Alienware to refund the charge after receiving the faulty module). Steven did eventually receive the new memory module, and more than a month after his new system died, it's finally working again.

It appears Alienware's customer service has slipped over the last year. We've touted the company's customer service and tech support in the past and rarely received complaints about this company. Over the past year, however, we've seen an increasing number of complaints regarding Alienware's customer service. We sincerely hope the company can turn things around and provide the level of customer service we've seen from the company in the past. We gave Alienware a chance to comment on Steven's case, but no one returned our calls by press time.

*In the March 2006 issue of Smart Computing, you featured a roundup of media creation suites. You mention that Roxio Easy Media Creator 8 includes a 318-page printed users manual. I tried contacting Roxio and customer service representatives told me the company has never distributed paper manuals. I was provided with a PDF (Portable Document Format) version of the manual, but I would prefer something in print.*

Ronald La Rue  
Montréal, Québec  
Canada  
.....

We contacted Roxio to inquire about the discrepancy and was informed that Roxio has always included paper manuals with its products. We asked why customer service representatives told Ronald just the opposite, and our PR rep couldn't say for sure. However, she did send a copy of the manual to Ronald right away.

## ACTION EDITOR

Are you having trouble finding a product or getting adequate service from a manufacturer? If so, we want to help solve your problem. Send us a description of the product you're seeking or the problem you're having with customer service. In billing disputes, include relevant information (such as account numbers or screen names for online services) and photocopies of checks. Include your phone number in case we need to contact you.

Letters may be edited for length and clarity; volume prohibits individual replies.

Write to:  
**Action Editor**  
P.O. Box 85380  
Lincoln, NE 68501-5380

Or send email to:  
[actioneditor@smartcomputing.com](mailto:actioneditor@smartcomputing.com)

Or fax us at:  
(402) 479-2104



# Tales From The Trenches You Need Help With *What?*



**W**e've all received those calls. A well-meaning friend or relative, in a slight panic, needs help getting out of a computer bind. You, of course, as a *Smart Computing* reader, are a natural candidate to help. Right? Like or not, when your uncle Dan opens that email promising cheap prescription drugs and infects his computer with a nasty virus, rectifying the situation often becomes your problem. Here are some ways I've found to maintain both your sanity and the relationships in your life.

## Maintain Calm

Put things into perspective, both for you and your stricken PC user. If Uncle Dan didn't respect your technical aptitude and pleasant demeanor, he wouldn't have asked for your help. So take it as a compliment. And help him understand that computer problems are rarely as dire as they seem. A methodical, logical approach to troubleshooting is the best tech support medicine, and your bedside manner will go a long way toward setting the tone. I try to ask narrowing questions (think 20 Questions) to pin down the true source of the problem. People who don't necessarily understand how all the parts of a computer fit together may have trouble getting down to the root of an issue. Often, I've found that the best assistance I can provide is helping to figure out the real cause of the problem, after which the solution is readily apparent. Unless, of course, you have unlimited resources and would rather just buy someone a new

computer every time he has a problem. Not an option for me, but your 401(k) might be doing much better than mine.

## Teach Them To Fish

Avoid the temptation to take over. Don't immediately run over to his place with your screwdriver and anti-static wristband. And don't have him drop off the machine at your house with a promise to return it in original working order. All that will accomplish is establishing yourself as his full-time in-house IT support group. I, for one, want that less than I want to be able to go to the movies Friday night. As painful as it might be at first, walk him through the clicks and connections to troubleshoot and solve the problem. Not only will he learn to solve problems himself, but eventually, you'll also earn his undying gratitude and respect (and maybe a free meal). Now, understand that you may need to stand over your friend's shoulder through the operation, but teaching others to navigate their own systems pays big dividends in the long run.

## Know When To Punt

Remember that you don't have to solve every problem. And lay down some rules. I don't answer those calls at 6:30 in the morning when I know it's going to take two hours to hook up my father-in-law's new digital camera. That's why God invented the magical combination of caller ID and voicemail. Call back when your schedule is clear and you've fortified

your patience with slow breathing and soothing music. Finally, know your limits. When my parents' seven-year-old 300Mhz Pentium I machine finally choked on a new Norton Security package this fall, I had one simple and immediate answer: "It's time for a new computer, Mom. Sorry." When you suspect motherboard, memory, or power supply problems from halfway across the country, direct people to the phone book. It's likely to point the way to help beyond what you can accomplish over the phone. Help people understand that amateur tech support, no matter how savvy, is just that—amateur. Sometimes you just have to go to the pros.

A little patience and a little perspective will go a long way toward maintaining your tech support sanity. You just might be on the other end of that phone call one of these early mornings. And I promise to calmly help you understand exactly what you can do with that little USB hub. ■

BY GREGORY ANDERSON

*Gregory Anderson is a regular contributor to Smart Computing and several other technology publications. He keeps a sharp eye (with the help of thick glasses) on computing trends and enjoys working with geeks of all stripes—most of the time. Reach Greg with your own stories of personal tech support provision at [gregory-anderson@smartcomputing.com](mailto:gregory-anderson@smartcomputing.com).*

# Tech Support Center

So you've decided you need a new hard drive and that you're going to install it yourself. Where do you start? Do you have all the information you need? Before taking on your next computing project, be sure to check out SmartComputing.com's Tech Support Center for some guidance. There, you'll find the How To Install . . . Just About Anything section and learn how to install everything from hard drives to sound cards and wireless networks. At the bottom of each article, you'll find a subject search where you can find more relevant articles from our editorial database. Finding the information is as easy as 1 . . . 2 . . . 3!

Go to [www.smartcomputing.com](http://www.smartcomputing.com) and click the Tech Support Center link.

Scroll down until you come to the How To Install . . . Just About Anything link.

Click the component you want to install, and you will be whisked to a full-text article that gives you comprehensive instructions on installing it yourself.

Don't forget to check out other helpful areas of the Tech Support Center, including Preventative & Regular Maintenance, as well as Driver Education. Preventative & Regular Maintenance takes an in-depth look at the simple things that keep your system in tip-top shape, while Driver Education will show you how to keep your drivers up-to-date to ensure that your PC whizzes along smoothly. Find everything you need today at SmartComputing.com's Tech Support Center!

**Tech Support CENTER**

**Search:** Enter all the resources we have for solving problems with digital words like 'problem' or 'malfunction', or type in long phrases, searches, but don't type in extremely broad terms like 'windows' or 'subjects' links whenever possible.

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Call us anytime between 7 am and 8 pm, CST, Monday - Friday at (800) 368-6304 to speak to a member of our Tech Support staff. If calling is not possible, [email us](#) all the details. (Note: We recommend contacting us by phone, if possible, rather than email.) We'll do everything we can to help you resolve your problem. This is a FREE service.

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# Metaphor, Meaning & Madness

**“W**hen I use a word,” Humpty Dumpty said in a rather scornful tone, “it means just what I choose it to mean—neither more nor less.”

“The question is,” said Alice, “whether you can make words mean so many different things.”

“The question is,” said Humpty Dumpty, “which is to be master—that’s all.”

—Lewis Carroll, “Alice in Wonderland”



Words are such a bother, aren't they? All those confusing letters. I mean, who needs 'em, really? (Oh, wait. . . I guess I do. After all, they pay me for all of these words we put in this magazine! So I suppose that makes me the Secretary to the Secretary of the Second Assistant Vice President in Charge of Words around here. And Mom thought I'd never amount to anything.)

Like Lewis Carroll's Alice, though, I sometimes wonder whether we're in control of the words we use or if they in fact control us. (Some researchers have said that, in the end, it's a bit of both. See [www.tinyurl.com/rtpmt](http://www.tinyurl.com/rtpmt).)

Take tech terms. (Please.) Now, some of our “new” tech terms aren't really new at all; they're old words used in an imaginative way, newly utilized as metaphors that are supposed to make sense to us. In other words, we use familiar terms to help us understand new things. When the world changes, language must also change so that we have ways to describe that new world.

For example, consider “Easter egg,” referring to a secret message or screen (or even another entire program) buried in a piece of software. In the '90s, Microsoft programmers built a little flight simulator into some versions of Excel: an early Easter egg. (Nothing worse than a bunch of programmers with too much time on their hands.)

The list goes on, of course, with dozens of old words being used metaphorically to help us understand a world that is rapidly becoming technologized: mouse, bug, menu, folder, icon, button, Desktop, paste, window, email, firewall, gateway, geek, surfing, notebook, wildcard, queue. . . All of these terms come to a technological world from elsewhere.

Of course, that's not quite confusing enough, so now we have metaphors on top of metaphors: “ping,” for example. The word is an onomatopoeic offering of the mid-1800s, originally meant to imitate the sound of a bullet striking. It came into use as an electronics term in the 1940s, meaning “to send a short, high-pitched pulse,” and became familiar to many of us when used by submariners to describe sending

such a burst to facilitate locating an enemy sub. As technology advanced, “ping” crossed over to the world of computers. In the 1980s, it took on something close to its current meaning: to send a pulse of data. These days it's often used as a verb: To “ping” a Web site is to send a quick data request, just to see if the target site exists and is up and running and to record how long the send/receive transaction took.

However, if you're able to track the etymology of “ping,” it must mean that it's *still* not confusing enough. Therefore, people have come up with yet another usage, thus creating a metaphor on top of a metaphor on top of a metaphor: Now we hear people saying things such as, “Well, I know you're busy right now, so just ping me when you get back into the office.” (These are the same folks who wander the mall with wireless headsets clamped to their ears, speaking to absent—and, for all we know, nonexistent—people.)

Because we know the term's origins, we could read that as asking someone to shoot him as soon as he's able to devote some time to it. Which may be a fine idea, of course, depending on who's saying it and whether he's wearing a wireless headset.

But my favorite of all metaphorical computer terms is “pod slurping.”

“Pod slurping” is a perfect example of how technology encourages the use of metaphors and other mechanisms to form new words. The term actually puts me in mind of a really cheap B-movie; one of those cheesy black-and-white horror flicks we convinced our parents to let us watch as kids, promising that we wouldn't have nightmares. (Which, of course, we did. Mom really *did* know best, as it turns out.) It sounds as if it should have something to do with slimy alien beings that come to Earth to inhabit the bodies of pop singers and make them behave in oddly self-destructive ways. (Hey, wait a minute, I could be on to something here. . . )

Alas, it's not nearly that interesting. “Pod slurping” means taking an iPod (or similar device) into an office and using it to copy files (i.e., to “slurp them up”) from the computers on people's desks. In other words, it's a digital (and therefore fast and simple) mechanism for facilitating corporate espionage. But you hafta love any term that includes the word “slurp,” right? **||**

BY ROD SCHER

Rod Scher is a former software developer and a recovering English teacher. He's also the publication editor of Smart Computing and will no doubt continue in that position until such time as his boss reads this column. Contact Rod at [rod-scher@smartcomputing.com](mailto:rod-scher@smartcomputing.com).

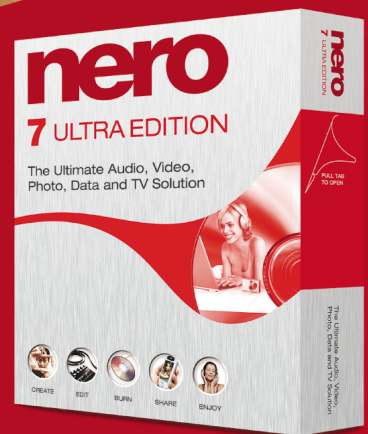


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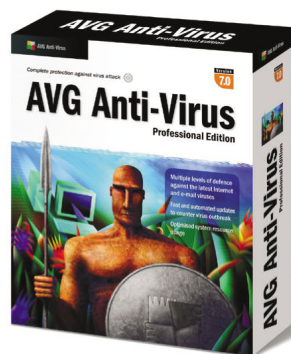
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